



codling
wind park



Natura Impact Statement Volume 6

In-combination Assessment -
Part 2



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Abbreviations

Abbreviation	Term in full
AESI	Adverse Effects on Site Integrity
CWP	Codling Wind Park
CWPE	Codling Wind Park Extension
CWPL	Codling Wind Park Limited
CWP OTI	CWP Onshore transmission infrastructure
EC	European Commission
ECC	Export Cable Corridor
EclA	Ecological Impact Assessment
EDF R	Électricité de France Renewables
EIA	Environmental Impact Assessment
ESB	Electricity Supply Board
ESBN	ESB Networks
EU	European Union
FOS	Fred. Olsen Seawind
GW	Gigawatt
INNS	Invasive non-native species
kV	Kilovolt
LSE	Likely Significant Effects
MHWM	Mean high water mark
MW	megawatts
MHWS	Mean high water springs
NIS	Natura Impact Statement
NPWS	National Parks and Wildlife Services
OWF	Offshore wind farm
OSS	Offshore substation structure
SAC	Special Area of Conservation
SCI	Special Conservation Interest
SPA	Special Protection Area
SSC	Suspended Sediment Concentration
TJB	Transition joint bay
TTS	Temporary Threshold Shift

WEI	Wind Energy Ireland
ZoI	Zone of influence

Definitions

Glossary	Meaning
the Applicant	The developer, Codling Wind Park Limited (CWPL).
array site	The red line boundary area within which the wind turbine generators (WTGs), inter-array cables (IACs) and the Offshore Substation Structures (OSSs) are proposed.
Alternative Alignment for the purposes of Modelling (AAM)	Locational flexibility of permanent and temporary infrastructure is described as a AAM from a specific point or alignment.
Codling Wind Park (CWP) Project	The proposed development as a whole is referred to as the Codling Wind Park (CWP) Project, comprising of the offshore infrastructure, the onshore infrastructure and any associated temporary works.
Codling Wind Park Limited (CWPL)	A joint venture between Fred. Olsen Seawind (FOS) and Électricité de France (EDF) Renewables, established to develop the CWP Project.
ESB Networks (ESBN)	Owner of the electricity distribution system in the Republic of Ireland, responsible for carrying out maintenance, repairs and construction on the grid.
environmental impact assessment (EIA)	A systematic means of assessing the likely significant effects of a proposed project, undertaken in accordance with the EIA Directive and the relevant Irish legislation.
Environmental Impact Assessment Report (EIAR)	The report prepared by the Applicant to describe the findings of the EIA for the CWP Project.
export cables	The cables, both onshore and offshore, that connect the offshore substations with the onshore substation.
generating station	Comprising the wind turbine generators (WTGs) and inter-array cables (IACs).
interconnector cables	The subsea electricity cables between OSSs
landfall	The point at which the offshore export cables are brought onshore and connected to the onshore export cables via the transition joint bays (TJB).
Metocean	Meteorological and oceanographic data (for example metocean data or metocean conditions).
offshore development area	The entire footprint of the offshore infrastructure and associated temporary works that will form the offshore boundary for the development consent application.
offshore export cables	The cables which transport electricity generated by the WTGs from the offshore substations (OSSs) to the landfall.
offshore export cable corridor (OECC)	The area between the array site and the landfall, within which the offshore export cables cable will be installed along with cable protection and other temporary works for construction.
offshore infrastructure	The offshore infrastructure, comprising of the WTGs, IACs, OSSs, Interconnector cables, offshore export cables and other associated infrastructure such as cable and scour protection.

offshore substation structure (OSS)	A fixed structure located within the array site, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable form for export to shore.
onshore export cables	The cables which transport electricity generated by the WTGs from the TJBs at the landfall to the onshore substation.
operation and maintenance (O&M) activities	Activities (e.g., monitoring, inspections, reactive repairs, planned maintenance) undertaken during the O&M phase of the CWP Project.
O&M phase	This is the period of time during which the CWP project will be operated and maintained.
operation and maintenance base (OMB)	The operational and maintenance facilities to support the CWP Project, including buildings/ / warehouses, laydown areas, cranes, parking and marine works such as pontoons for maintenance vessels.
parameters	Set of parameters by which the CWP Project is defined and which are used to form the basis of assessments.
Phase 1 Project	On 19 May 2020, the Government announced that seven offshore renewable energy projects had been designated as Relevant Projects, namely Oriel Wind Park, Arklow Bank II, Bray Bank, Kish Bank, North Irish Sea Array, Codling Wind Park and Skerid Rocks. These projects are now known as Phase 1 Projects.
planning application boundary	The area subject to the application for development consent, including all permanent and temporary works for the CWP Project.
Special Conservation Interest features	Species which are designated as having Conservation Objectives under Irish SPAs.
Special conservation interest conservation objectives	SPA and SCI-specific Objectives against which AESI is assessed for each potential impact of the CWP Project.
Strategic Infrastructure Development	Strategic Infrastructure Development includes development which would: <ul style="list-style-type: none"> - contribute significantly to meeting any of the objectives of the National Planning Framework, or - contribute significantly to meeting any regional spatial and economic strategy for an area, or - have a significant effect on the area of more than one planning authority.
transition joint bay (TJB)	This is required as part of the OTI and is located at the landfall. It is an underground bay housing a joint which connects the offshore and onshore export cables.
wind turbine generator	All the components of a wind turbine, including the tower, nacelle, and rotor.
zone of influence (Zoi)	Spatial extent of potential impacts resulting from the project.

1 INTRODUCTION

1. This document, **Volume 6 (Part 2 of 2)** provides the scientific examination of the CWP Project and examines the in-combination impacts screened into the analysis of project-only assessment of the implications for Special Protection Areas (**Volume 5 Part 1 and Part 2**).
2. The NIS is laid out as follows:
 - **Volume 1** contains the introduction to the CWP Project, document structure and a summary of the conclusions of the other volumes.
 - **Volume 2** contains the introductory sections of the document, detailing the relevant legislation, assessment methodology, and the project description.
 - **Volume 3** provides the report to inform AA Screening.
 - **Volume 4** provides the scientific examination of the CWP Project on relevant European sites (Special Area of Conservation (SACs)), to identify and characterise any possible implications of the CWP Project on the integrity of European sites.
 - **Volume 5 (Part 1 and Part 2)** provides the scientific examination of the CWP Project on relevant European sites (Special Protection Areas (SPAs)), to identify and characterise any possible implications of the CWP Project on the integrity of European sites.
 - This volume (**Volume 6 (Part 1 and Part 2)**) provides the scientific examination of the CWP Project and examines the in-combination impacts screened into the analysis of project-only assessment (**Volume 4 and 5**).
3. This **Volume** is structured to give a scientific consideration of potential impacts each 'screened in' European designated site, drawing on the conclusions presented in **Volume 3**. Each section in this volume initially provides a summary of the conclusions for the site, through reference to the Conservation Objectives and potential impact pathways, before then providing a detailed QI by QI impact assessment. **Section 3** presents this detailed examination and analysis in a site by site structure to allow the reader to understand the implications for each site.

2 APPROACH TO IN-COMBINATION ASSESSMENT

4. Step 1 of the in-combination assessment process involved establishing the long list of other development with the potential to result in in-combination effects with the CWP Project. This included all projects that result in a comparative effect that is not intrinsically considered as part of the existing environment and is not limited to other Offshore Wind Farm (OWF) projects.
5. The long list of other plans and programmes (presented in **Appendix 5.1: Cumulative Effects Assessment Methodology** of the EIAR) was then subject to additional screening criteria to establish a short list of other development for each European Site. Each plan or project considered alongside the CWP Project has been assigned to a tier, reflecting their current status in the planning and development process.
6. The purpose of the tiered approach is to give consideration to the level of certainty that a plan or project will be built and therefore contribute to in-combination effects. For example, there can be greater certainty that other developments approved and under construction are likely to contribute to in-combination, whereas other developments at early phases of development (i.e., pre-planning) are less likely to proceed to construction and contribute in-combination.
7. The proposed tiering structure is presented in **Table 2.1** and described in more detail in **Appendix 5.2 Cumulative Effects Assessment Methodology** of the EIAR. The tiers are listed in descending order of level of detail likely to be available (and, correspondingly, certainty of effects arising).

Table 2.1: Tiered structure for other plans and programmes considered (modified from PINS Advice Note 17 (PINS, 2019))

Tier	Description
Tier 1	<ul style="list-style-type: none"> Constructed projects with a continuing effect* Under construction. Permitted applications, but not yet implemented. Offshore applications submitted six months or more in advance of the CWP Project planning application, but not yet determined; and Onshore applications submitted six months or more in advance of the CWP Project planning application, but not yet determined.
Tier 2a	<ul style="list-style-type: none"> Offshore projects in receipt of a Maritime Area Consent (MAC) and an Offshore Renewable Electricity Support Scheme (ORESS) contract.
Tier 2b	<ul style="list-style-type: none"> Other offshore projects in receipt of a MAC. Offshore Projects in the public domain where an EIA scoping report has been issued. Onshore Projects in the public domain where an EIA scoping report has been issued
Tier 3	<ul style="list-style-type: none"> Projects in the public domain where an EIA scoping report has not been issued; and Projects that have been identified in the relevant development plans and programmes, which set the framework for future development consents / approvals, where such development is reasonably likely to come forward.

*specifically constructed projects that do not form part of the baseline receiving environment

3 EXAMINATION AND ANALYSIS OF POTENTIAL IMPACTS ON EUROPEAN SITES – CWP PROJECT IN-COMBINATION WITH OTHER PLANS AND PROJECTS

8. For the project screening process, in order to determine which other projects to include for in-combination assessment, a Zone of Influence (Zol) was applied around the project area to ensure that in-combination effects on offshore, intertidal and onshore ornithological receptors were appropriately identified and assessed.
9. For offshore ornithological receptors for impacts relating to the array site or OECC the Zol was defined as the area encompassed by the maximum of the mean-max foraging range (plus one standard deviation), taken from Woodward et al. (2019), of all receptors considered within in-combination assessment, with the exception of fulmar and Manx shearwater. Fulmar and Manx shearwater were excluded in determining Zol ranges on account of their extremely large foraging ranges, and as such potential connectivity with very distant sites would mean apportioned impacts to these colonies would be imperceptible and would therefore make no meaningful in-combination contribution to impacts). For the key offshore ornithology receptors considered in in-combination assessment, excluding fulmar and Manx shearwater, gannet has the largest foraging range at 509 km (inclusive of one standard deviation) and thus this distance was used to define the Zol for all receptors.
10. For intertidal receptors for impacts relating to the OECC intertidal landfall within the South Dublin Bay area the Zol was defined as within the South Dublin Bay part of the South Dublin Bay and River Tolka Estuary SPA.
11. For the terrestrial and estuarine / Liffey receptors, the Zol was defined based on a precautionary maximum disturbance distance of 300 m as outlined by Cutts et al. (2013).
12. Certain planned and operational projects were screened out of further consideration for potential in-combination effects on ornithology based on there not being a potential impact-receptor-pathway across development phases for the following reasons:
 - There is no potential impact-receptor-pathway due to the project being outside of the Zol;
 - There is no potential impact-receptor-pathway due to there being no temporal overlap between project / plan activities with the potential for in-combination effect;
 - The plan / project does not have an ongoing effect or is part of the baseline; and
 - Very limited data are available for the project in question but on the basis of the data available no likely potential for in-combination effects arises
 - Project in question is at an early stage and will be subject to detailed future assessment that will take account of the CWP Project.

Projects screened in to in-combination assessment for impacts relating to the OECC intertidal landfall are listed in **Table 3.1**, along with their minimum distances from the OECC intertidal landfall area and onshore development area and their assigned tier.

Table 3.1: Summary of other projects screened into the in-combination assessment for offshore ornithology

Development	Type	Distance from array site (km)	Distance from OECC (km)	Tier
Offshore wind energy projects				
Dublin Array	OWF	2.8	2.0	2a
Arklow Bank Phase 2	OWF	9.8	9.9	2b
Arklow Bank Phase 1	OWF	21.4	31.0	1
North Irish Sea Array	OWF	40.8	23.0	2a
Oriel	OWF	84.3	62.0	2b
Mona	OWF	127.7	132.8	1
Morgan	OWF	136.0	143.2	1
Awel-y-Mor	OWF	136.6	140.3	1
Rhyl Flats	OWF	146.9	150.3	1
Gwynt y Mor	OWF	147.7	151.3	1
Morecambe	OWF	153.3	158.9	1
Walney Extension 3 + 4	OWF	158.5	165.7	1
North Hoyle	OWF	161.4	164.8	1
Burbo Bank Extension	OWF	169.2	172.9	1
Walney 2	OWF	170.9	177.5	1
West of Duddon Sands	OWF	173.0	179.3	1
Walney 1	OWF	174.4	180.9	1
Burbo Bank	OWF	179.1	182.8	1
Ormonde	OWF	182.4	189.0	1
Erebus	OWF	185.2	192.5	1
Barrow	OWF	186.2	192.2	1
Robin Rigg	OWF	212.5	220.9	1
White Cross	OWF	225.4	232.9	1
Twin Hub	OWF	308.5	315.8	1
Other marine projects				
West Anglesey Demonstration Zone	Tidal energy	72.0	80.0	1
Fair Head Phase 2	Tidal energy	214.0	210.0	1
Swansea Bay Tidal Lagoon	Tidal energy	218.0	223.0	1
Cardiff Bay Tidal Lagoon	Tidal energy	270.0	275.0	1
West Somerset Tidal Lagoon	Tidal energy	277.0	282.0	1
Mares Connect	Subsea cable	11.234.3	11.2	1
Celtix Connect – Sea Fibre	Subsea cable	8.1	11.0	1
Greenlink Interconnector	Subsea cable	124.4	128.0	1
North Wall Emergency Power Generation Plant	Coastal assets	30.0	0.0	1
Dublin Port Company MP2	Coastal assets	31.0	1.0	1
Arklow Waste Water Treatment	Coastal assets	31.0	36.0	1
Maintenance dredging River Boyne, Drogheda	Coastal assets	67.0	36.0	1

Table 3.2: Summary of other development screened into the in-combination assessment for intertidal ornithology

Development	Distance from OECC (km)	Distance from onshore development area (km)	Tier
Dublin Port Capital Dredging Project	0.5	0.5	1
Dublin Port Company MP2 Project	1.0	1.0	1
Grand Canal Storm Water Outfall Extension	1.7	1.9	1
New Terminal building (St Michael's Pier)	1.6	5.8	1
Dublin Array (export cable corridor option through South Dublin Bay)	2.0	2.0	2a

Table 3.3: Summary of other developments screened into the in-combination assessment for onshore ornithology

Development	Distance from the onshore infrastructure (km)	Tier
ESB Dublin Bay Power Station / OCGT, Battery Energy Storage System and Flexible Thermal Generation	0	1
ESB Poolbeg Generating Station / BESS, Flexible Thermal Generation, OCGT and Substation	0	1
Pembroke Beach DAC / Becbay Ltd & Fabrizia Developments Ltd. Redevelopment of former glass bottle site	0	1
Dublin Port Company 3FM	0	3
Energy Infrastructure - 30 MW BESS	0.1	1

3.1 Introduction or spread of invasive non-native species: High level assessment for non-overlapping SPAs

13. Given that screened-in non-overlapping SPAs do not spatially overlap with any part of the CWP project, screened-in impacts to SCIs of those SPAs primarily (and generally entirely) relate to ex situ effects insofar that they do not impact areas within SPA boundaries (i.e., in situ impacts do not generally occur, or where they may they are extremely limited).
14. Potential introduction or spread of INNS impacts to non-overlapping SPAs is entirely limited to potential upon ex situ habitats which may support the SCIs and features of those SPAs. The areas of the CWP Project in which the introduction or spread of INNS may coincide with, at most, very limited proportions of the ex situ supporting habitats of SCIs from the screened-in SPAs. It is therefore considered that the potential for such ex situ impacts to impede the Conservation Objectives of non-overlapping SPAs is negligible and therefore that there is no meaningful pathway for such impacts to result in AESI in-for the CWP project alone.
15. Despite this, the implementation of mitigation measures to align with EU policy (specifically EU Regulation 1143/2014 [regarding the prevention and management of the introduction and spread of INNS]; and The EU Biodiversity Strategy for 2030 [which contains a commitment to manage established INNS and decrease the number of Red List species they threaten by 50% by 2030]) in the form of biosecurity protocols outlined within the CEMP, shall eliminate or reduce CWP Project risk

relating to the introduction or spread of invasive non-native species across all areas and phases of the project. This will have the effect of eliminating or reducing CWP ex situ introduction or spread of invasive non-native species impacts within supporting habitats of the SCIs of the above listed non-overlapping SPAs when considered in-combination with other Tier 1 projects.

16. In relation to the Conservation Objectives, attributes and targets for SCIs of all non-overlapping SPAs listed above, for introduction and spread of INNS impacts it can be concluded that there is no impediment to their Conservation Objectives being met for any SCIs and, in turn, that there is no AESI for these SPAs as a result of the CWP Project in-combination with Tier 1 projects.
17. For impacts relating to the introduction or spread of INNS, for all of the screened-in non-overlapping SPAs assessed within **Volume 5 - part 2**, due to the separation distances between these SPAs and activities and infrastructure associated with the CWP Project, there is considered to be no potential for CWP Project activities, in-combination with other Tier 1 and Tier 2 projects, to result in the introduction or spread of INNS in the in situ habitats used by the SCIs and features of these SPAs.
18. Potential introduction or spread of INNS impacts to non-overlapping SPAs is entirely limited to potential upon ex situ habitats which may support the SCIs and features of those SPAs. The areas of the CWP Project in which the introduction or spread of INNS may coincide with, at most, very limited proportions of the ex situ supporting habitats of SCIs from the screened-in SPAs. It is therefore considered that the potential for such ex situ impacts to impede the Conservation Objectives of non-overlapping SPAs is negligible and therefore that there is no meaningful pathway for such impacts to result in AESI in-combination with other Tier 1 and Tier 2 projects.
19. Despite this, the implementation of mitigation measures to align with EU policy (specifically EU Regulation 1143 [regarding the prevention and management of the introduction and spread of INNS]; and The EU Biodiversity Strategy for 2030 [which contains a commitment to manage established INNS and decrease the number of Red List species they threaten by 50% by 2030]) in the form of biosecurity protocols outlined within the CEMP, shall eliminate or reduce CWP Project risk relating to the introduction or spread of invasive non-native species across all areas and phases of the project. This will have the effect of eliminating or reducing CWP ex situ introduction or spread of invasive non-native species impacts within supporting habitats of the SCIs of the above listed non-overlapping SPAs when considered in-combination with other Tier 1 and Tier 2 projects.
20. In relation to the Conservation Objectives, attributes and targets for SCIs of all non-overlapping SPAs listed above, for introduction and spread of INNS impacts it can be concluded that there is no impediment to their Conservation Objectives being met for any SCIs and, in turn, that there is **no project-only AESI for these SPAs as a result of the CWP Project in-combination with other Tier 1 and Tier 2 projects**

3.2 South Dublin Bay and River Tolka Estuary SPA (IE004024)

21. This SPA is designated in relation to the following special conservation interests (SCIs) which have been screened in for consideration within the NIS: common tern, Arctic tern, roseate tern, black-headed gull, light-bellied brent goose, oystercatcher, ringed plover, grey plover, knot, sanderling, dunlin, bar-tailed godwit, redshank, and 'wetland and waterbirds. A summary of the in-combination assessment is provided in **Table 3.4**, with the details provided in **Table 3.5**.

Table 3.4: Summary of adverse effects on site integrity (AESI) (in-combination) - South Dublin Bay and River Tolka Estuary SPA

Objective:	Attributes and targets	Predicted impact [attribute(s) potentially affected]	Link to assessment	Mitigation	Residual effect	Conclusion
Sterna hirundo - Common tern [A193]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Passage population – No significant decline 4. Distribution: breeding colonies – No significant decline 5. Distribution: roosting areas – No significant decline 6. Prey biomass available – No significant decline 7. Barriers to connectivity – No significant increase 8. Disturbance at the breeding site – Human activities should occur at levels that do not adversely affect the breeding common tern population 9. Disturbance at roosting site – Human activities should occur at levels that do not adversely affect the numbers of common tern among the post-breeding aggregation of terns	Direct effects on habitat [1,3,5]	Section 2.2.1 of Volume 5 Part 1	None	No change	No AESI
		Disturbance and displacement [1,2,3,4,5,7,8,9]		Section 2.2.1 of Volume 5 Part 1	Section 2.2.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2,3,6]		None	No change	No AESI
		Collision [1,2,3]		None	No change	No AESI
		Introduction or spread of invasive species [1,2,3,4,5,6]	See high level assessment in Section 3.1			
Sterna paradisaea - Arctic tern [A194]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Passage population – No significant decline 2. Distribution: roosting areas – No significant decline 3. Prey biomass available – No significant decline 4. Barriers to connectivity – No significant increase 5. Disturbance at roosting site – Human activities should occur at levels that do not adversely affect the numbers of Arctic tern among the post-breeding aggregation of terns	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
		Disturbance and displacement [1,2,4,5]		Section 2.2.2 of Volume 5 Part 1	Section 2.2.2 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,3]		None	No change	No AESI
		Collision [3]		None	No change	No AESI
		Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			
Sterna dougallii - Roseate tern [A192]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Passage population – No significant decline 2. Distribution: roosting areas – No significant decline 3. Prey biomass available – No significant decline 4. Barriers to connectivity – No significant increase 5. Disturbance at roosting site – Human activities should occur at levels that do not adversely affect the numbers of roseate tern among the post-breeding aggregation of terns	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
		Disturbance and displacement [1,2,4,5]		Section 2.2.3 of Volume 5 Part 1	Section 2.2.3 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,3]		None	No change	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			
Chroicocephalus ridibundus - Black-headed gull [A179]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.5 of Volume 5 Part 1	Section 2.2.5 of Volume 5 Part 1	No AESI
		Disturbance and displacement [1,2]		Section 2.2.5 of Volume 5 Part 1	Section 2.2.5 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.5 of Volume 5 Part 1	Section 2.2.5 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Branta bernicla - Light-bellied brent goose [A046]						

Objective:	Attributes and targets	Predicted impact [attribute(s) potentially affected]	Link to assessment	Mitigation	Residual effect	Conclusion
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Haematopus - Oystercatcher [A130]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Charadrius hiaticula - Ringed plover [A137]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Pluvialis squatarola - Grey plover [A141]– This SCI is proposed for removal from the list of SCIs for the SPA. As a result, a site-specific Conservation Objective has not been set for this species. However, as this SCI has not yet been removed from the list of SCIs for this SPA, it has been assessed against the same Conservation Objective and associated attributes and targets as other wader SCIs of this SPA.						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Calidris canutus - Knot [A143]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Calidris alba - Sanderling [A144]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI

Objective:	Attributes and targets	Predicted impact [attribute(s) potentially affected]	Link to assessment	Mitigation	Residual effect	Conclusion
	2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Calidris alpina - Dunlin [A149]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		
Limosa lapponica - Bar-tailed godwit [A157]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		
Tringa totanus - Redshank [A162]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	N/A	Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.2.4 of Volume 5 Part 1	Section 2.2.4 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		
Wetland and Waterbirds [A999]						
To maintain the favourable conservation condition of the wetland habitat in the SPA as a resource for the regularly occurring migratory waterbirds that utilise it	1. Habitat area - The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 2,192 hectares, other than that occurring from natural patterns of variation.	Direct effects on habitat [1]	N/A	Section 2.2.6 of Volume 5 Part 1	Section 2.2.6 of Volume 5 Part 1	No AESI
		Changes in prey availability [1]		Section 2.2.6 of Volume 5 Part 1	Section 2.2.6 of Volume 5 Part 1	No AESI
				Introduction or spread of invasive species [1]	See high level assessment in Section 3.1	

Table 3.5: In-combination assessment of adverse effects on site integrity for South Dublin Bay and River Tolka Estuary SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Common tern, Arctic tern, roseate tern, black-headed gull	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		All ('non wetland and waterbird') SCIs	OECC intertidal landfall	<p>The spatial extent of intertidal habitat within the SPA that is estimated to be subject to temporary direct effects as a result of intertidal cable landfall activities is estimated to be 0.73% of available habitat. In the context of the negligible proportion of intertidal habitat within the SPA which will be affected during construction and the short-term temporary nature of the effects to those habitats, the scale of direct effects on habitat within the OECC intertidal landfall area is considered to be negligible. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in consideration of the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to SCIs habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		Wetland and Waterbirds	OECC intertidal landfall	<p>Project-only construction phase direct effects on habitat impacts within the OECC intertidal landfall represent a negligible proportion of the Wetland and Waterbirds SCI habitat area. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.4.</p>
	O&M	Common tern, Arctic tern, roseate tern, black-headed gull	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity.. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the intertidal landfall area represent a negligible proportion of intertidal habitat areas. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of intertidal habitat loss under normal operation. Occasional maintenance actions may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however the physical area of intertidal habitat affected by activities is considered to be negligible relative to the habitat areas available within South Dublin Bay and River Tolka Estuary SPA. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in consideration of the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant.. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		Wetland and waterbirds	OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC intertidal landfall represent a negligible proportion of the Wetland and Waterbirds SCI habitat area. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant.. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC intertidal landfall area during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.4.</p>
Disturbance and displacement	Construction	All	Array site	<p>Disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>integrity where relevant.. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		All	OECC intertidal landfall	<p>Project-only construction phase impacts arising from disturbance and displacement within the OECC intertidal landfall area are considered to affect a negligible proportion of the SPA SCI populations, once mitigative measures of seasonal and night-time restrictions are put in place. Seasonal restrictions will require that construction does not take place within intertidal areas between September and March, inclusive. Night-time timing restrictions require that no works are to be undertaken between mid-July and August during the dawn and dusk crepuscular periods or at night, when tern species are likely to be roosting in the intertidal zone. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Provided that disturbance-inducing activities of other projects (Table 3.2) screened in to the in-combination assessment of this impact are mitigated similarly, it is considered that disturbance and displacement impacts would be similarly negligible in this regard. For tern SCIs, which are present in greatest numbers during the late summer to early autumn period, additional timing restrictions on construction works are applied in order to mitigate against impacts to these autumn-staging terns. These timing restrictions require that no works are to be undertaken during the dawn and dusk crepuscular periods or at night, when terns are likely to be roosting in the intertidal zone. Any residual impacts to terns would be restricted to the diurnal period, when sensitivity to anthropogenic activities is considered to be lower. Although intertidal waterbird species are known to exhibit a range of behavioural responses to anthropogenic activity (i.e., low-tolerance species may flee at lower disturbance levels than high-tolerance species), it is considered that the extent of intertidal habitat available is such that any residually impacted individuals can still access alternative areas within the vicinity.</p> <p>It is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		Common tern	Onshore infrastructure	<p>Following the application of mitigative measures outlined in NIS Volume 5 Part 1, Section 2.2.2, project-only construction phase disturbance and displacement impacts to the common tern SCI of South Dublin Bay and River Tolka Estuary SPA, of which there is a SPA breeding colony approximately 250 m to the northeast of the onshore substation area are considered to be negligible. Other projects screened in to in-combination assessment (Table 3.3), either have no route to impact to cause disturbance and displacement impacts to common tern, or, similarly assess their project only disturbance and displacement impacts to this SCI to be negligible. In-combination disturbance and displacement impacts to the common tern SCI of South Dublin Bay and River Tolka Estuary SPA is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activity to develop onshore infrastructure with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		Light-bellied brent goose		<p>Following the application of mitigative measures outlined in NIS Volume 5 Part 1, Section 2.2.4, project-only construction phase disturbance and displacement impacts to the light-bellied brent goose SCI of South Dublin Bay and River Tolka Estuary SPA which utilises the onshore 'Goose Green' grassland area are assessed to be negligible. Other projects screened in to in-combination assessment (Table 3.3), are more distantly located from the Goose Green area than onshore infrastructure of the CWP project and, for these, there is considered to be no route to impact for disturbance and displacement effects to light-bellied brent geese within this area. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activity to develop onshore infrastructure with regard to SCI Conservation Objectives stated in Table 3.4.</p>
	O&M	All	Array site	<p>Disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase disturbance and displacement impacts within the intertidal landfall area represent a negligible proportion of intertidal waterbird SCI habitat use areas during breeding, migration and / or wintering periods. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no mechanism for disturbance or displacement to waterbird SCIs under normal operation. Occasional maintenance actions may require some activities which illicit disturbance responses from waterbirds along the buried infrastructure during this phase of the project, however the short temporal duration and small scale of any such activities is considered to be negligible relative to the habitat areas available to seabird SCIs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprints of disturbance and displacement inducing activities within the SPA arising from the activities of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only disturbance and displacement footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.4.</p>
Changes in prey availability	Construction	Common tern, Arctic tern, roseate tern, black-headed gull	Array site OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the array site and OECC are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical seabird foraging areas. Impacts to seabird prey species from array site and OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area and OECC with regard to SCI Conservation Objectives stated in Table 3.4.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
		All	OECC intertidal landfall	<p>Project-only construction impacts arising from changes in prey availability within the intertidal segment of the OECC are considered to represent a negligible proportion of habitats available to the prey species of intertidal waterbird SCIs. Additionally, project-only construction phase impacts arising from changes in prey availability within the OECC intertidal landfall are considered to be mitigated for as per the seasonal timing restrictions implemented in order to minimise disturbance and displacement impacts. Intertidal waterbird SCIs will largely be absent from the SPA during the April to August landfall construction period, and with the high rate of recoverability of intertidal habitats, it is considered that the prey species of intertidal waterbirds would likely rapidly repopulate areas of disrupted intertidal habitat. Any residual impacts on prey availability are considered to represent a negligible proportion of SPA habitats available to intertidal waterbird SCIs migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The impact footprints of changes in prey availability arising from intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard, provided that developers apply similar seasonal restrictions on activities within this SPA. The in-combination total project-only changes in prey availability on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to habitat use extents of the SCIs.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.4.</p>
	O&M	Common tern, Arctic tern, roseate tern, black-headed gull	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		Common tern, Arctic tern, roseate tern, black-headed gull	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.4.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the intertidal segment of the OECC represent a negligible proportion of habitats available to the prey species of seabird SCIs. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to these SCIs. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to the prey species of intertidal waterbird SCIs under normal operation. Occasional maintenance activities may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however effects on prey species which inhabit intertidal substrate affected by such activities is considered to be negligible, relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles. Repopulation of any disrupted intertidal habitat by seabird prey species is considered to occur quickly. The magnitude of impacts to potentially sensitive intertidal waterbird prey species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The prey availability impact footprints of intertidal activities within South Dublin Bay in relation to other projects screened in for the in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total footprint of changes in prey availability for project-only, when considered alongside all other projects screened in to the in-combination assessment of this impact, is therefore considered to be negligible in relation to seabird prey species' habitat use extents, and by extension to the habitat use areas available to the SCIs themselves.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.4.</p>
Collision	O&M	Common tern	Array site	See Section 8.6.1 No in-combination AESI .
		Arctic tern, roseate tern, black-headed gull	Array site	<p>Project-only collision impacts to these SCIs are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, and as all other OWF projects listed in are beyond the mean maximum foraging range (+ 1 SD) of these species from South Dublin Bay and River Tolka Estuary SPA, it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs of South Dublin Bay and River Tolka Estuary SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCIs Conservation Objectives stated in Table 3.4.</p>
		All wildfowl and waders	Array site	Project-only collision impacts to these SCIs are assessed to be negligible on the basis that estimated collision mortalities were very low. The risk of collision to migratory wildfowl and wader SCIs is considered to be negligible when project-only impacts are considered, primarily due to the



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>likelihood that such species will tend to fly around, rather than through, the operational array site (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the combining the collision mortality estimates from projects listed in Table 3.1, these are not available or provided; however it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.4.</p>

3.2.1 Collision – Operation and Maintenance – Common tern – Array site

22. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of this SPA SCI through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.4**.
23. Project-only collision impacts to this SPA SCI which may pass through the array site during migration periods are assessed to not result in an AESI in relation to the SPA breeding population and in relation to the SPA post-breeding aggregation (see **NIS Volume 5 Part 1, Section 2.2.1**).
24. The increase in baseline mortality to the breeding common tern population of the SCI from the CWP Project alone is modelled to be a total of 0.030 individuals per annum [one mortality per 33.3 years] for array site Design Option A and 0.027 individuals per annum [one mortality per 37 years] for array site Design Option B), representing a 0.026% or 0.023% increase to SPA mortality rates respectively.
25. The increase in baseline mortality to the post-breeding common tern SCI from the CWP Project alone is modelled to be a total of 0.531 individuals per annum [one mortality per 1.9 years] for array site Design Option A and 0.475 individuals per annum [one mortality per 2.1 years] for array site Design Option B, representing up to a 0.016% or 0.014% increase to SPA mortality rates respectively.
26. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.

In the absence of collision mortality estimates to the common tern SCI of South Dublin Bay and River Tolka Estuary SPA from other projects in **Table 3.1**, as a result of no collision mortalities for this SCI apportioned to this SPA for Tier 1 projects, and in light of the apparent rapid increase in the breeding population of this SCI at this SPA (a 129% increase from 512 to 988 individuals between the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002) and surveys for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2016)), it is considered that any negligible project-only contribution to similarly negligible in-combination collision impacts to this SCI of South Dublin Bay and River Tolka Estuary SPA cannot contribute to AESI in such a way as to adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI.

27. As such, in consideration of Tier 1, Tier 2a and Tier 2b projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.4**.

3.3 North Bull Island SPA (IE004006)

28. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: black-headed gull, light-bellied brent goose, shelduck, teal, pintail, shoveler, oystercatcher, golden plover, grey plover, knot, sanderling, dunlin, black-tailed godwit, bar-tailed godwit, curlew, redshank and turnstone. A summary of the in-combination assessment is provided in **Table 3.6**, with the details provided in **Table 3.7**. The CWP Project does not directly interact with the North Bull Island SPA, with no physical overlap between the CWP Project and the SPA. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.6: Summary of adverse effects on site integrity (in-combination) - North Bull Island SPA

Objective:	Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Black-headed gull [A179]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.2 of Volume 5 Part 1	Section 2.3.2 of Volume 5 Part 1	Section 2.3.2 of Volume 5 Part 1	No AESI
		Disturbance and displacement [1,2]		Section 2.3.2 of Volume 5 Part 1	Section 2.3.2 of Volume 5 Part 1	No AESI
		Changes in prey availability [1, 2]		Section 2.3.2 of Volume 5 Part 1	Section 2.3.2 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Light-bellied brent goose [A046]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Shelduck [A048]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Teal [A052]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI

Objective:	Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Pintail [A054]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Shoveler [A857]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Oystercatcher [A130]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Golden plover [A140]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			No AESI
Grey plover [A141]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI

Objective:	Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
	2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Knot [A143]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		
Sanderling [A144]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		
Dunlin [A149]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		
Black-tailed godwit [A156]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
			Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1		

Objective:	Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Bar-tailed godwit [A157]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Curlew [A160]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Redshank [A162]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			
Turnstone [A169]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Population trend – Long-term population trend stable or increasing 2. Distribution - No significant decrease in the range, timing or intensity of use of areas other than that occurring from natural patterns of variation	Direct effects on habitat [1,2]	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Disturbance and displacement (including barrier effects) [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Changes in prey availability [1,2]		Section 2.3.1 of Volume 5 Part 1	Section 2.3.1 of Volume 5 Part 1	No AESI
		Collision [1]		None	No change	No AESI
		Introduction or spread of invasive species [1,2]	See high level assessment in Section 3.1			

Table 3.7: In-combination assessment of adverse effects on site integrity for North Bull Island SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Black-headed gull	Array site	<p>Project-only construction phase direct effects on ex situ habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA for this specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.6.</p>
		Black-headed gull	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC represent a negligible proportion of seabird SCI ex situ habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.6.</p>

	All	OECC intertidal landfall	<p>The spatial extent of ex situ intertidal habitat (i.e., beyond the boundaries of North Bull Island SPA) that is estimated to be subject to temporary direct effects as a result of intertidal cable landfall activities is 0.16 km², and is confined to the functionally connected South Dublin Bay and River Tolka Estuary SPA. This equates to approximately 0.42% of total available intertidal habitat across the South Dublin Bay and River Tolka Estuary SPA and North Bull Island SPA complex. In the context of the negligible proportion of ex situ intertidal habitat within North Bull Island SPA and in situ habitat within the functionally linked South Dublin Bay and River Tolka Estuary SPA which will be affected during construction and the short-term temporary nature of the effects to those habitats, the scale of direct effects on habitat within the OECC intertidal landfall area is considered to be negligible. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in consideration of the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. The footprint of direct effects on habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant ex situ. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on ex situ habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to SCIs habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.6.</p>
O&M	Black-headed gull	Array site	<p>Project-only operation and maintenance phase direct effects on ex situ habitat within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p>

				<p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.6.</p>
		Black-headed gull	OECC	<p>Project-only operation and maintenance phase direct effects on ex situ habitat within the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.6.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the intertidal landfall area represent a negligible proportion of intertidal habitat areas. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of intertidal habitat loss under normal operation. Occasional maintenance actions may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however the physical area of intertidal habitat affected by activities is considered to be negligible relative to the habitat areas available within North Bull Island SPA. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in consideration of the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p>

				<p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.6.</p>
Disturbance and displacement	Construction	All	Array site	<p>Ex situ disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the presence of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.6.</p>
		All	OECC intertidal landfall	<p>Project-only construction phase impacts arising from ex situ disturbance and displacement within the OECC intertidal landfall area are considered to affect a negligible proportion of the North Bull Island SPA SCI populations if they are present in the functionally connected South Dublin Bay and River Tolka Estuary SPA during construction. Seasonal restrictions will require that construction does not take place within ex situ intertidal areas between September and March, inclusive. Night-time timing restrictions require that no works are to be undertaken between mid-July and August during the dawn and dusk crepuscular periods or at night, when tern species are likely to be roosting in the intertidal zone. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is important to note that no other projects are proposed within either the North Bull Island SPA nor the South Dublin Bay and River Tolka SPA.</p> <p>It is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. Furthermore, in the absence of other projects within either North Bull Island SPA or South Dublin Bay and River Tolka SPA there are anticipated to be no meaningful pathways for in-combination effect. As such, in consideration of Tier 1 and Tier 2a and 2b projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.6.</p>
	O&M	All	Array site	<p>Ex situ disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined</p>

				<p>with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.6.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase ex situ disturbance and displacement impacts within the intertidal landfall area at South Dublin Bay represent a negligible proportion of the total intertidal waterbird SCI habitat use areas across North Bull Island and South Dublin Bay and River Tolka SPA during breeding, migration and / or wintering periods. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no mechanism for disturbance or displacement to waterbird SCIs under normal operation. Occasional maintenance actions may require some activities which illicit disturbance responses from waterbirds along the buried infrastructure during this phase of the project, however the short temporal duration and small scale of any such activities is considered to be negligible relative to the habitat areas available to seabird SCIs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprints of disturbance and displacement inducing activities within the SPA arising from the activities of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard, in particular given that no other projects are anticipated within the intertidal area of South Dublin Bay. The in-combination total project-only disturbance and displacement footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.6.</p>
Changes in prey availability	Construction	Black-headed gull	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion of prey availability for this SCI. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical seabird foraging areas. Impacts to seabird prey species from array site construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p>

				As such, in consideration of Tier 1 and Tier 2a and Tier 2b projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.6 .
		Black-headed gull	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.6.</p>
		All	OECC intertidal landfall	<p>Project-only construction impacts arising from changes in prey availability within the intertidal segment of the OECC on an ex situ basis are considered to represent a negligible proportion of habitats available to the prey species of intertidal waterbird SCIs. Additionally, project-only construction phase impacts arising from changes in prey availability within the OECC intertidal landfall are considered to be mitigated for as per the seasonal timing restrictions implemented in order to minimise disturbance and displacement impacts. Intertidal waterbird SCIs will largely be absent from the SPA during the April to August landfall construction period, and with the high rate of recoverability of intertidal habitats, it is considered that the prey species of intertidal waterbirds would likely rapidly repopulate areas of disrupted intertidal habitat. Any residual impacts on prey availability are considered to represent a negligible proportion of SPA habitats available to intertidal waterbird SCIs migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The impact footprints of changes in prey availability arising from intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard, given no projects are proposed. The in-combination total project-only changes in prey availability on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to habitat use extents of the SCI</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to this SPA SCI cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2a and Tier 2b projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.6.</p>
	O&M	Black-headed gull	Array site	Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km ² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding,

				<p>migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.6.</p>
	Black-headed gull	OECC		<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.6.</p>
	All	OECC intertidal landfall		<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the intertidal segment of the OECC on an ex situ basis represent a negligible proportion of habitats available to the prey species of seabird SCIs. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to the prey species of intertidal waterbird SCIs under normal operation. Occasional maintenance activities may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however effects on prey species which inhabit intertidal substrate affected by such activities is considered to be negligible, relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles. Repopulation of any disrupted intertidal habitat by seabird prey species is considered to occur quickly. The magnitude of impacts to potentially sensitive intertidal waterbird prey species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p>

				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The ex situ prey availability impact footprints of intertidal activities within the functionally connected South Dublin Bay and River Tolka Estuary SPA in relation to other projects screened in for the in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total footprint of changes in prey availability for project-only, when considered alongside all other projects screened in to the in-combination assessment of this impact, is therefore considered to be negligible in relation to seabird prey species' habitat use extents, and by extension to the habitat use areas available to the SCIs themselves.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to the North Bull Island SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2a and Tier 2b projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.6.</p>
Collision	O&M	Black-headed gull	Array site	<p>Project-only collision impacts to the SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, and as all other OWF projects listed in are beyond the mean maximum foraging range (+ 1 SD) of these species from North Bull Island SPA, it is considered that the negligible project-only contribution to in-combination collision impacts to the SCI of North Bull Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCIs Conservation Objectives stated in Table 3.6.</p>
		All wildfowl and waders	Array site	<p>Project-only collision impacts to these SCIs basis are assessed to be negligible on the basis that estimated collision mortalities were very low. The risk of collision to migratory wildfowl and wader SCIs is considered to be negligible when project-only impacts are considered, primarily due to the likelihood that such species will tend to fly around, rather than through, the operational array site (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the combining the collision mortality estimates from projects listed in Table 3.1, these are not available or provided; however it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.6.</p>

3.4 Dalkey Islands SPA (IE004172)

29. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: common tern, Arctic tern and roseate tern. A summary of the in-combination assessment is provided in **Table 3.8**, with the details provided in **Table 3.9**. The CWP Project does not directly interact with the Dalkey Island SPA, with no physical overlap between the CWP Project and the SPA. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.8: Summary of adverse effects on site integrity (AESI) (in-combination) – Dalkey Islands SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Common Tern [A193]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): <div><div>1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.</div><div>2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.</div><div>3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.</div></div>	Direct effects on habitat [1,2,3]	Section 2.4.1 of Volume 5 Part 1	None	No change	No AESI
	Disturbance and displacement [1,2,3]		Section 2.4.1 of Volume 5 Part 1	Section 2.4.1 of Volume 5 Part 1	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI
Arctic tern [A194]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): <div><div>1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.</div><div>2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.</div><div>3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.</div></div>	Direct effects on habitat [1,2,3]	Section 2.4.2 of Volume 5 Part 1	None	No change	No AESI
	Disturbance and displacement [1,2,3]		Section 2.4.1 of Volume 5 Part 1	Section 2.4.1 of Volume 5 Part 1	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI
Roseate tern [A192]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): <div><div>1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.</div><div>2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.</div><div>3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.</div></div>	Direct effects on habitat [1,2,3]	Section 2.4.3 of Volume 5 Part 1	None	No change	No AESI
	Disturbance and displacement [1,2,3]		Section 2.4.1 of Volume 5 Part 1	Section 2.4.1 of Volume 5 Part 1	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI

Table 3.9: In-combination assessment of adverse effects on site integrity for Dalkey Islands SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	All	Array site	<p>Project only construction phase direct effects on ex situ habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project ex situ direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.8.</p>
		All	OECC	<p>Project only construction phase direct effects on ex situ habitat impacts within the OECC similarly represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 and Tier 2a and Tier 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to SCIs habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.8 .
		All	OECC intertidal landfall	<p>Project only construction phase direct effects on ex situ habitat impacts within the intertidal segment of the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2a and 2b project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 and Tier 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on ex situ habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to SCIs habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal section of the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.8.</p>
	O&M	All	Array site	<p>Project-only operation and maintenance phase direct effects on ex situ habitat impacts within the array site represent a negligible proportion of seabird SCI ex situ habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.8 .
		All	OECC	<p>Project-only operation and maintenance phase direct effects on ex situ habitat impacts within the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2a and 2b project direct effects are spatially limited, do not directly interact with the Dalkey Islands SPA, the Tier 1 and Tier 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on ex situ habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.8.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the intertidal section of the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				The in-combination total footprint of direct effects on ex situ habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal section of the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.8 .
Disturbance and displacement	Construction	All	OECC intertidal landfall	<p>Project-only construction phase impacts arising from ex situ disturbance and displacement within the OECC intertidal landfall area are considered to affect a negligible proportion of the Dalkey Islands SPA SCI populations if they are present in the functionally connected South Dublin Bay and River Tolka Estuary SPA during construction. Seasonal restrictions for works in the South Dublin Bay and River Tolka SPA will require that construction does not take place within ex situ intertidal areas between September and March, inclusive. Night-time timing restrictions require that no works are to be undertaken between mid-July and August during the dawn and dusk crepuscular periods or at night, when tern species are likely to be roosting in the intertidal zone. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is important to note that no other projects are proposed within either the Dalkey Islands SPA nor the South Dublin Bay and River Tolka SPA.</p> <p>It is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to the SCIs of this SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.8.</p>
	O&M	All	OECC intertidal landfall	<p>Project-only operation and maintenance phase disturbance and displacement impacts within the intertidal landfall area on an ex situ basis represent a negligible proportion of intertidal habitat use areas during breeding, migration and / or wintering periods. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no mechanism for disturbance or displacement to SCIs under normal operation. Occasional maintenance actions may require some activities which illicit disturbance responses from along the buried infrastructure during this phase of the project, however the short temporal duration and small scale of any such activities is considered to be negligible relative to the habitat areas available to SCIs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprints of disturbance and displacement inducing activities within the SPA arising from the activities of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only disturbance and displacement footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.8.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
Changes in prey availability	Construction	All	Array site & OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the array site and OECC are considered to represent a negligible proportion of prey availability for these SCIs on an ex situ basis. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical seabird foraging areas. Impacts to seabird prey species from array site and OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area and OECC with regard to SCI Conservation Objectives stated in Table 3.8.</p>
		All	OECC intertidal landfall	<p>Project-only construction impacts arising from changes in prey availability within the intertidal segment of the OECC are considered to represent a negligible proportion of habitats available to the prey species of breeding tern SCIs on an ex situ basis. Although project-only construction phase impacts to migratory and wintering intertidal waterbirds arising from changes in prey availability within the OECC intertidal landfall are considered to be mitigated for as per the seasonal timing restrictions implemented in order to minimise disturbance and displacement impacts, breeding tern SCIs are present in greatest numbers during the late summer to early autumn (i.e., during the period of construction works). Nevertheless, any residual direct effects on habitat are considered to represent a negligible proportion of SPA habitats available to breeding tern SCIs during the breeding and / or migration periods. Project-only direct effects on habitat are assessed also to be negligible (See Volume 5 Part 1: Sections 2.4.1 to 2.4.3). Given the high rate of recoverability of intertidal habitats, it is considered that the prey species of breeding tern SCIs would likely rapidly repopulate areas of disrupted intertidal habitat. Any residual impacts on prey availability are considered to represent a negligible proportion of SPA habitats available to breeding tern SCIs during breeding and / or migration periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The impact footprints of changes in prey availability arising from intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard, provided that developers apply similar seasonal restrictions on activities within this SPA. The in-combination total project-only changes in prey availability on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to habitat use extents of the SCIs.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.8.</p>
	O&M	All	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs on an ex situ basis. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.8.</p>
		All	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs on an ex situ basis. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.8.</p>
		All	OECC intertidal landfall	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the intertidal segment of the OECC represent a negligible proportion of habitats available to the prey species of seabird SCIs on an ex situ basis. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to these SCIs. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to the prey species of intertidal waterbird SCIs under normal operation. Occasional maintenance activities may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>of the project, however effects on prey species which inhabit intertidal substrate affected by such activities is considered to be negligible, relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles. Repopulation of any disrupted intertidal habitat by seabird prey species is considered to occur quickly. The magnitude of impacts to potentially sensitive intertidal waterbird prey species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The prey availability impact footprints of intertidal activities within South Dublin Bay in relation to other projects screened in for the in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total footprint of changes in prey availability for project-only, when considered alongside all other projects screened in to the in-combination assessment of this impact, is therefore considered to be negligible in relation to seabird prey species' habitat use extents, and by extension to the habitat use areas available to the SCIs themselves.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.8.</p>
Collision	O&M	Common tern	Array site	See Section 8.8.1. No in-combination AESI.
		Arctic tern, roseate tern	Array site	<p>Project-only collision impacts to these SCIs are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, and as all other OWF projects listed in are beyond the mean maximum foraging range (+ 1 SD) of these species from Dalkey Islands SPA, it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs of Dalkey Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCIs Conservation Objectives stated in Table 3.8.</p>

3.4.1 Collision – Operation and Maintenance – Common tern – Array site

30. Project-only collision impacts to the common tern SCI of Dalkey Island SPA which may forage within the array site during the breeding period or pass through the array site during migration periods are assessed to be negligible in relation to the SPA breeding population and in relation to the SPA post-breeding aggregation (**NIS Volume 5 Part 1, Section 2.4.1**). Impacts to the very small breeding common tern population of the SPA (30 individuals – 2017 count) are assessed to be a total of 0.012 individuals per annum [one mortality per 83.3 years] for array site Design Option A and 0.011 individuals per annum [one mortality per 90.9 years] for array site Design Option B). Maximum impacts to the post-breeding common tern SCI are assessed to be a total of 0.531 individuals per annum [one mortality per 1.9 years] for array site Design Option A and 0.475 individuals per annum [one mortality per 2.1 years] for array site Design Option B, representing up to a 0.016% or 0.014% increase to SPA mortality rates respectively. In the absence of collision mortality estimates to the common tern SCI of Dalkey Islands SPA from other projects in **Table 3.1**, it is considered that any negligible project-only contribution to in-combination collision impacts to this SCI of Dalkey Islands SPA cannot contribute to AESI in such a way as to adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI. As such, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Volume 5 Part 1**.

3.5 The Murrough SPA (IE004186)

31. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: herring gull, black-headed gull, red-throated diver, little tern, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, teal and wigeon. A summary of the in-combination assessment is provided in **Table 3.10** with the details provided in **Table 3.11**.

Table 3.10: Summary of adverse effects on site integrity (AESI) (in-combination) – The Murrough SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Herring gull [A184]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Direct effects on habitat [1,2,3]	Section 2.5.1 of Volume 5 Part 1	None	No change	No AESI
	Disturbance and displacement [1,2,3]		None	No change	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI
Black-headed gull [A179]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Direct effects on habitat [1,2,3]	Section 2.5.2 of Volume 5 Part 1	None	No change	No AESI
	Disturbance and displacement [1,2,3]		Section 2.5.2 of Volume 5 Part 1	Section 2.5.2 of Volume 5 Part 1	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI
Red-throated diver [A001]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Direct effects on habitat [1,2,3]	Section 2.5.3 of Volume 5 Part 1	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1,2,3]		Section 2.5.3 of Volume 5 Part 1	Section 2.5.3 of Volume 5 Part 1	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI
Little tern [A885]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Direct effects on habitat [1,2,3]	Section 2.5.4 of Volume 5 Part 1	None	No change	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI
Whooper swan [A038], Light-bellied brent goose [A046], Greenland white-fronted goose [A395], Greylag goose [A043], Teal [A052], Wigeon [A855]					
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Direct effects on habitat	Section 2.5.5 of Volume 5 Part 1	None	No change	No AESI
	Direct effects on habitat [1,2,3]		Section 2.5.5 of Volume 5 Part 1	Section 2.5.5 of Volume 5 Part 1	No AESI
	Disturbance and displacement (including barrier effects) [1,2,3]		None	No change	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Introduction or spread of invasive species [1,2,3]	See high level assessment in Section 3.1			No AESI

Table 3.11: In-combination assessment of adverse effects on site integrity The Murrough SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Herring gull, black-headed gull, red-throated diver, little tern	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the SPA.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon	OECC intertidal landfall	<p>Project-only construction phase direct effects on habitat impacts within the OECC intertidal landfall are considered to be negligible given the spatial extent of the habitat affected and the, the temporary nature of the works, and the recoverability of the habitat. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 8.2) are predicted within the respective EIAs and Natura assessments to be negligible. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the SPA.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

				no in-combination AESI as a result of direct effects on habitat within the OECC intertidal landfall during construction with regard to SCI Conservation Objectives stated in Table 3.10 .
	O&M	Herring gull, black-headed gull, red-throated diver, little tern	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site represent a negligible proportion of ex situ seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the SPA.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon	OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC intertidal landfall are considered to be negligible given the spatial extent of the ex situ habitat affected and the temporary nature of the works, as well as the recoverability of habitat. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the SPA.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC intertidal landfall during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.10.</p>
Disturbance and displacement	Construction	All	Array site	Ex situ disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated

				<p>with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Red-throated diver (indirect habitat loss)	Array site	See Section 3.5.1. No in-combination AESI .
		Red throated diver	OECC	See Section 3.5.2. No in-combination AESI .
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon	OECC intertidal landfall	<p>Project-only construction phase impacts arising from disturbance and displacement within the OECC landfall area are considered to affect a negligible proportion of the SPA SCI populations, if present in the South Dublin Bay area on an ex situ basis. Seasonal restrictions in South Dublin Bay will require that construction does not take place within intertidal areas between September and March, inclusive. Night-time timing restrictions require that no works are to be undertaken between mid-July and August during the dawn and dusk crepuscular periods or at night, when tern species are likely to be roosting in the intertidal zone. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. Furthermore no other projects are anticipated to construct within the South Dublin Bay area and as such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.10.</p>
	O&M	All	Array site	<p>Ex situ disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the SPA.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis</p>

				<p>that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the SPA.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Red-throated diver	Array site	See Section 8.9.3 No in-combination AESI .
		Red throated diver	OECC	See Section 8.9.4 No in-combination AESI .
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon	OECC intertidal landfall	<p>Project-only operation and maintenance phase disturbance and displacement impacts within the intertidal landfall area represent a negligible proportion of ex situ intertidal waterbird SCI habitat use areas during breeding, migration and / or wintering periods. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no mechanism for disturbance or displacement to waterbird SCIs under normal operation. Occasional maintenance actions may require some activities which illicit disturbance responses from waterbirds along the buried infrastructure during this phase of the project, however the short temporal duration and small scale of any such activities is considered to be negligible relative to the habitat areas available to seabird SCIs on an ex situ basis.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprints of disturbance and displacement inducing activities within the SPA arising from the activities of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only disturbance and displacement footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.10.</p>
Changes in prey availability	Construction	Herring gull, black-headed gull, red-throated diver, little tern	Array site OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the array site and OECC on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical seabird foraging areas. Impacts to seabird prey species from array site and OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area and OECC with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon	OECC intertidal landfall	<p>Project-only construction impacts arising from changes in prey availability within the intertidal segment of the OECC on an ex situ basis are considered to represent a negligible proportion of habitats available to the prey species of intertidal waterbird SCIs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

				<p>The impact footprints of changes in prey availability arising from intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard, provided that developers apply similar seasonal restrictions on activities within this SPA. The in-combination total project-only changes in prey availability on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to habitat use extents of the SCIs.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.10.</p>
	O&M	Herring gull, black-headed gull, red-throated diver, little tern	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Herring gull, black-headed gull, red-throated diver, little tern	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The ex situ areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with</p>

				<p>the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon	OECC intertidal landfall	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the intertidal segment of the OECC represent a negligible proportion of ex situ habitats available to the prey species of seabird SCIs. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to these SCIs. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to the prey species of intertidal waterbird SCIs under normal operation. Occasional maintenance activities may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however effects on prey species which inhabit intertidal substrate affected by such activities is considered to be negligible, relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles. Repopulation of any disrupted intertidal habitat by seabird prey species is considered to occur quickly. The magnitude of impacts to potentially sensitive intertidal waterbird prey species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The prey availability impact footprints of intertidal activities within South Dublin Bay in relation to other projects screened in for the in-combination assessment are considered similarly negligible in this regard. The in-combination total footprint of changes in prey availability for project-only, when considered alongside all other projects screened in to the in-combination assessment of this impact, is therefore considered to be negligible in relation to seabird prey species' habitat use extents, and by extension to the habitat use areas available to the SCIs themselves.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.10.</p>
Collision	O&M	Herring gull	Array site	See Section 8.9.5. No in-combination AESI .
		Black-headed gull, red-throated diver, little tern		<p>Project-only collision impacts to these SCIs are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs of The Murrough SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.10.</p>
		Herring gull, black-headed gull, whooper swan, light-bellied brent goose, Greenland white-fronted goose, greylag goose, wigeon		<p>Project-only collision impacts to these SCIs are assessed to be negligible on the basis that estimated collision mortalities were very low. The risk of collision to migratory wildfowl and wader SCIs is considered to be negligible when project-only impacts are considered, primarily due to the likelihood that such species will tend to fly around, rather than through, the operational array site (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the combining the collision mortality estimates from projects listed in Table 3.1, these are not available or provided; however it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.10.</p>

3.5.1 Disturbance and displacement – Construction – Red-throated diver – Array site

32. A review of the literature and in accordance with UK Joint SNCB Interim Advice on the treatment of displacement for red-throated diver (UK SNCBs, 2022), and the use of Fliessbach et al. (2019) to inform disturbance impacts from vessels (**NIS Volume 5 Part 1, Section 2.5.3**). This allowed a project-only assessment to be undertaken with the conclusion that the impacts were of a negligible proportion of the SPA population.

33. In relation to the Conservation Objectives (**Table 3.4**), a conclusion was therefore drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.

No other relevant projects listed in **Table 3.1** are within the conservative maximum potential disturbance or displacement distances for red-throated diver of 10 km to The Murrough SPA. It is therefore assessed that no other projects will meaningfully contribute to in situ in-combination disturbance and displacement impacts with construction phase works or the presence of infrastructure within the array site.

34. In-combination construction phase disturbance and displacement impacts to this SPA SCI are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.10**.

35. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of construction phase disturbance and displacement impacts from the presence of infrastructure and construction activities within the array site with regard to SCI Conservation Objectives stated in **Table 3.10**.

3.5.2 Disturbance and displacement – Construction – Red-throated diver – OECC (including intertidal landfall area)

36. A review of disturbance impacts from vessels (Fliessbach et al., 2019) was used to inform the project-only assessment (**NIS Volume 5 Part 1, Section 2.5.3**), which gave a conclusion that the impacts were of a negligible proportion of the SPA population.

37. In relation to the Conservation Objectives (**Table 3.4**), a conclusion was therefore drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.

No other relevant projects listed in **Table 3.1** are within the conservative maximum potential disturbance distances for red-throated diver of 2 km to The Murrough SPA. It is therefore assessed that no other projects will meaningfully contribute to in situ in-combination disturbance and displacement impacts with construction phase works within the OECC and intertidal landfall area.

38. In-combination construction phase disturbance and displacement impacts to this SPA SCI are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.10**.

39. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of construction phase disturbance and displacement impacts from the

presence of infrastructure and construction activities within the OECC and intertidal landfall area with regard to SCI Conservation Objectives stated in **Table 3.10**.

3.5.3 Disturbance and displacement – Operation and Maintenance – Red-throated diver – Array site

40. A review of the literature and in accordance with UK Joint SNCB Interim Advice on the treatment of displacement for red-throated diver (UK SNCBs, 2022), and the use of Fliessbach et al. (2019) to inform disturbance impacts from vessels (**NIS Volume 5 Part 1, Section 2.5.3**). This allowed a project-only assessment to be undertaken with the conclusion that the impacts were of a negligible proportion of the SPA population.
41. In relation to the Conservation Objectives (**Table 3.4**), a conclusion was therefore drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
42. No other relevant projects listed in are within the conservative maximum potential disturbance or displacement distances for red-throated diver of 10 km to The Murrough SPA. It is therefore assessed that no other projects will meaningfully contribute to in situ in-combination disturbance and displacement impacts with operation and maintenance phase works or the presence of infrastructure within the array site.
43. In-combination operation and maintenance phase disturbance and displacement impacts to this SPA SCI are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.10**.
44. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of operation and maintenance phase disturbance and displacement impacts from the presence of infrastructure activities within the array site with regard to SCI Conservation Objectives stated in **Table 3.10**.

3.5.4 Disturbance and displacement – Operation and Maintenance – Red-throated diver – OECC (including intertidal landfall area)

45. A review of disturbance impacts from vessels (Fliessbach et al., 2019) was used to inform the project-only assessment (**NIS Volume 5 Part 1, Section 2.5.3**), which gave a conclusion that the impacts were of a negligible proportion of the SPA population.
46. In relation to the Conservation Objectives (**Table 3.4**), a conclusion was therefore drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
47. No other relevant projects listed in are within the conservative maximum potential disturbance distances for red-throated diver of 2 km to The Murrough SPA. It is therefore assessed that no other projects will meaningfully contribute to in situ in-combination disturbance and displacement impacts with operation and maintenance phase works within the OECC and intertidal landfall area.
48. In-combination operation and maintenance phase disturbance and displacement impacts to this SPA SCI are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.10**.

49. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of operation and maintenance phase disturbance and displacement impacts from the presence of infrastructure and construction activities within the OECC and intertidal landfall area with regard to SCI Conservation Objectives stated in **Table 3.10**.

3.5.5 Collision – Operation and Maintenance – Herring gull – Array site

Project-only assessment

50. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of this SPA SCI through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the following Conservation Objective attribute and target for this SPA SCI:
- Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats
51. Herring gull from The Murrough SPA may pass through the array site during the non-breeding period (when the herring gull population of the SPA forms the basis of the site's designation for this SCI) and, as such, may collide with operational WTGs.
52. However, The Murrough SPA non-breeding season herring gull population constitutes only a negligible proportion of the regional herring gull non-breeding season population. The 10-year mean peak count of herring gull over the 2011 / 12 to 2020 / 21 non-breeding seasons from the North Wicklow Coastal Marshes I-WeBS survey site (which corresponds with the onshore part of The Murrough SPA) is 95 individuals. This equates to 0.05% of the regional herring gull non-breeding population (calculated as 187,090 individuals in **Section 2.5 of Appendix 10.5 Ornithology Baseline characterisation report** of the EIAR). As such, only a very small proportion of total non-breeding season herring gull predicted collision mortalities (0.05% of 2.393 = 0.001 collisions per non-breeding period) would be considered to relate to individuals associated with The Murrough SPA.
53. Project-only collision impacts to the herring gull SCI of The Murrough SPA are assessed to be negligible (a total of 0.001 individuals per non-breeding period [one mortality per 1,000 years] for array site Design Options A or B). It is considered that this negligible project-only contribution to in-combination collision impacts to this SCI of The Murrough SPA cannot contribute to AESI in such a way as to adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI.
54. As additional mortality to this SPA SCI resulting from collision with operational WTGs is estimated to represent only a negligible potential increase to SPA baseline mortality rates, this impact is considered not to impede the overall objective of maintaining / restoring the favourable conservation condition of the SPA SCI. Specifically, collision mortality will not affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats. In light of these factors, it can be concluded beyond reasonable scientific doubt that the CWP Project will not give rise to any AESI to this SPA SCI.

Proposed mitigation

55. No specific mitigation is proposed, or required, in respect of collision during operation and maintenance, as this impact will not give rise to any AESI in relation to this SPA SCI.

Residual impacts

56. As per project only assessment, above.

Project-only effect on site integrity conclusion for impact

57. The Conservation Objective and its attributes and targets for this SPA SCI are presented in **Table 3.10**, above. With regards to collision impacts during the operation and maintenance phase of the CWP Project, it can be concluded that there is no impediment to the Conservation Objective being met for this SCI and, in turn, that there is no **project-only AESI for this SPA SCI**.

Breeding Seabird SPAs (Non-overlapping)

3.6 Wicklow Head SPA (IE004127)

58. This SPA is designated in relation to the following SCI which has been screened in for consideration within the NIS: kittiwake. A summary of the in-combination assessment is provided in **Table 3.13**, with the details provided in **Table 3.14**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.12: Summary of adverse effects on site integrity (in-combination) - Wicklow Head SPA

Objective: Attributes and targets	Predicted effect [Attribute(s) potentially affected]	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's population on a long-term basis.	Kittiwake [A188]				
	Direct effects on habitat [1,3]	Section 4.4 of Volume 5 Part 2	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high level assessment in Section 3.1.			No AESI

Table 3.13: In-combination assessment of adverse effects on site integrity for Wicklow Head SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake	Array site	<p>Project-only construction phase ex situ direct effects on habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.12.</p>
			OECC	Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5 , the proposed CWP Project will not

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M	Kittiwake		<p>adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.12.</p>
			Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.12.</p>
			OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.12.</p>
Changes in prey availability	Construction	Kittiwake	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.12.</p>
			OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.12.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of on ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.12.</p>
			OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.12.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.6.1. No in-combination AESI .

3.6.1 Collision – Operation and Maintenance – Kittiwake – Array site

59. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Wicklow Head SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.12**.
60. **Table 3.14** provides the predicted collision mortality (using the Band option 1 models) apportioned to the kittiwake SCI of Wicklow Head SPA resulting from array site operation and maintenance phase activities at CWP Project both alone and in-combination with projects from other tiers for turbine configuration Representative Scenarios A and B.

Table 3.14: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Wicklow Head SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.574	1.023	1.448	6.058
Design B	0.5	0.949	1.374	5.984

61. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (1,290 individuals – 2023), is estimated to be 188.34 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.15**.

Table 3.15: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Wicklow Head SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.30%	0.54%	0.77%	3.22%
Design B	0.27%	0.50%	0.73%	3.18%

62. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where Tier 2b are included in assessment), Population viability analysis (PVA) is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
63. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Wicklow Head SPA breeding kittiwake population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.
64. Proportional impacts to the SPA population, calculated as collision mortality divided by the SPA breeding population size (1,290 individuals – 2023), are provided in **Table 3.16**.

Table 3.16: Proportional impacts to Wicklow Head SPA breeding kittiwake population used in PVA for assessment of in-combination collision impacts

Turbine configuration	Collision mortality as a proportion of SPA population (PVA proportional mortality input)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.00044	0.00079	0.00112	0.00470
Design B	0.00039	0.00074	0.00107	0.00464

65. Counterfactual outputs from density independent PVA models for each in-combination scenario are presented in **Table 3.17**. These counterfactual outputs, the counterfactual of growth rate (CGR) and the counterfactual of population size (CPS), compare the growth rate or population size respectively in the baseline PVA simulations to the same rate in the impact PVA simulations. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.17: Counterfactual output values from PVA for in-combination collision impacts to Wicklow Head SPA breeding kittiwake population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.99940	0.98536	0.99911	0.97615	0.99863	0.96587	0.99437	0.86284
Design B	0.99956	0.98923	0.99905	0.97741	0.99862	0.96650	0.99453	0.86832

66. The Wicklow Head SPA breeding population of kittiwake decreased from a total of 1,912 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 1,546 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – from surveys in 2019), and subsequently to 1,290 individuals (from surveys in 2023) – declines of 19.14% and 32.53%, respectively.
67. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022 (**Appendix 5 Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity** in **Volume 7** of this NIS).
68. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI “maintaining itself on a long-term basis” (**NIS Volume 5 Part 2, Section 6.5**).
69. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1).
70. Key considerations are whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves or hitherto increasing or stable populations (i.e., ‘tipping-points’ causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.

71. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
72. At Wicklow Head SPA, where the kittiwake breeding population appears to be gradually decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
73. CGR values of in-combination collision impacts to the kittiwake SCI of Wicklow Head SPA for all but the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects and other Tier 2a projects) exceed 0.998 for array site Design Options A and B (Table A). A CGR threshold of 0.998 (i.e., if CGR values less than 0.998 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
74. However, CGR values of in-combination collision impacts to the kittiwake SCI of Wicklow Head SPA for the most inclusive in-combination scenario (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) do not exceed 0.995 for array site Design Options A and B (Table A) and, as such, density independent PVA models do not meet the stated threshold levels which are considered prudent to form a robust conclusion of no AESI.
75. In this circumstance, as more simple and inherently conservative density independent PVA models do not incorporate compensatory density dependence relationships, these are viewed as being overly precautionary. Supplementary PVA models were therefore undertaken that incorporate a range of feasible compensatory density dependence scenarios, but otherwise the same as the density independent PVAs. Further information relating to these supplementary density dependent PVA models is provided in **Section 2.1.2 of Appendix 4 Population Viability Analysis in Volume 7** of this NIS.
76. Density-dependence is a process by which the growth rate of a population is modulated by the size of that population. A simple example is that at higher population sizes, resources may be limiting and, as a result, survival and / or reproductive rates may decline. Conversely, when population sizes are smaller, resources may be more abundant, therefore survival and / or reproductive rates may increase. This type of relationship can act as a stabilising force whereby declines in population size are compensated by increases in survival and / or reproduction causing the population size to increase again. This is compensatory density-dependence and there is evidence that this regulates population sizes in many different seabird species (Horswill et al., 2017). There is compelling evidence that such selection plays an important role in regulating kittiwake populations (Ruffino et al., 2020).
77. Depensatory density dependence may also act on populations. This is where survival or reproduction may be reduced at smaller population sizes. There is also evidence for this in seabirds, for example, where chicks belonging to small colonies may be predated at a higher rate than those in larger colonies (Horswill et al., 2017).
78. It is also recognised that density-independent models may not represent a fully precautionary approach since, in certain circumstances, particularly where populations decline to small sizes, depensatory density-dependence may accelerate population declines with decreasing population size (Horswill and Robinson, 2015; Horswill et al., 2017; Jitlal et al., 2017). However, there is no evidence to suggest that depensatory density-dependence is significantly contributing to population trends at the Wicklow Head SPA colony, where long-term population trends have remained relatively stable, or only slowly declined (as opposed to rapid population declines which would be expected where

depensatory density dependence is a key driver a population's dynamics). Furthermore, as the breeding kittiwake population at Wicklow Head SPA remains relatively large (1,290 individuals in 2023), it is considered unlikely that mechanisms resulting in depensatory density dependence becoming the key driver of the population's dynamics (such as increased colony permeability to predators or reduced cultural transmission of foraging information etc. – Ruffino et al., 2020) will significantly affect the population unless it declines greatly.

79. Density dependence is generally not included in PVA models carried out to assess the population consequences of predicted impacts for offshore wind farms to seabirds in the UK. This is because studies addressing the structure of density dependence suggest that this may vary significantly among individual seabird colonies and there is therefore likely (as is the case for the Wicklow Head SPA kittiwake breeding population) to be insufficient data available to accurately reflect these processes in PVA modelling (Horswill and Robinson, 2015; Cook and Robinson, 2015). Density-independent models are usually considered as a worst-case scenario since it is assumed that if density-dependence is acting on the population, then it will be compensatory and would go at least some way towards countering the effects of the increased mortality rates associated with proposed developments on overall population growth (WWT, 2012; Cook and Robinson 2015; Green et al., 2016; Horswill et al., 2017).
80. If density-dependence is to be modelled then it is generally recommended that a range of density-dependent scenarios are considered (WWT, 2012; Cook and Robinson, 2016). As such, density-dependence was incorporated as a range of modifiers of varying strengths to the reproductive rate of breeding kittiwake at Wicklow Head SPA.
81. In the absence of colony-specific data to determine the strength and shape of density dependence for the Wicklow Head SPA kittiwake colony, the range of density dependence modifications to productivity was constrained by biological parameters relevant to kittiwake. For example, as kittiwake typically attempt to rear one or two chicks per breeding attempt (with a single breeding attempt each year) the upper limit to the maximum population average reproductive rate per breeding pair, a value referred to as maxD which determines the strength of density dependence, is limited to 1.5.
82. The results of the supplementary models are fully outlined in **Section 2.1.2 of Appendix 4 Population Viability Analysis in Volume 7** of this NIS. Importantly, with the incorporation of the lowest levels of density dependence trialled (i.e., very slight increases to productivity when populations decline, from a baseline average productivity rate of 0.604 chicks per pair to a maximum average productivity rate of 0.700 chicks per pair), CGR values of in-combination collision impacts to the kittiwake SCI of Wicklow Head SPA for the most inclusive in-combination scenario (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects), highlighted in bold in **Table 3.18**, below, exceed the 0.995 conservative threshold outlined above in relation to the declining SPA population.

Table 3.18: Counterfactual output values from density dependent PVA (incorporating the weakest level of density dependence trialled) for in-combination collision impacts to Wicklow Head SPA breeding kittiwake population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.9996	0.9894	0.9992	0.9777	0.9989	0.9674	0.9954	0.8711
Design B	0.9997	0.9908	0.9994	0.9810	0.9990	0.9697	0.9955	0.8742

83. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
84. In-combination collision impacts to the kittiwake SCI of Wicklow Head SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.12**. Specifically, this small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
85. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.12**.

3.7 Howth Head Coast SPA (IE004113)

86. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: kittiwake. A summary of the in-combination assessment is provided in **Table 3.19**, with the details provided in **Table 3.20**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.19: Summary of adverse effects on site integrity (in-combination) - Howth Head Coast SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI: 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Kittiwake [A188]				
	Direct effects on habitat [1,3]	Section 4.5 of Volume 5 Part 2	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.20: In-combination assessment of adverse effects on site integrity for Howth Head Coast SPA

Impact	Phase	SCI	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake	Array site	<p>Project-only construction phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.19.</p>
			OECC	Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no

Impact	Phase	SCI	Area	In-combination assessment
	O&M	Kittiwake		<p>adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.19.</p>
			Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.19.</p>
			OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise</p>

Impact	Phase	SCI	Area	In-combination assessment
				<p>are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.19.</p>
Changes in prey availability	Construction	Kittiwake	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.19.</p>
			OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or</p>

Impact	Phase	SCI	Area	In-combination assessment
				<p>relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.19.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.19.</p>
			OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or</p>



Impact	Phase	SCI	Area	In-combination assessment
				<p>relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.19.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.7.1. No in-combination AESI .

3.7.1 Collision – Operation and Maintenance – Kittiwake – Array site

87. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Howth Head Coast SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.19**.
88. **Table 3.21** provides the predicted collision mortality apportioned to the kittiwake SCI of Howth Head Coast SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Representative Scenarios A and B.

Table 3.21: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Howth Head Coast SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.368	2.878	6.268	8.558
Design B	0.32	2.83	6.22	8.51

89. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (3,546 individuals – 2018), is estimated to be 517.716 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.22**.

Table 3.22: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Howth Head Coast SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.07%	0.56%	1.21%	1.65%
Design B	0.06%	0.55%	1.20%	1.64%

90. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where Tier 2b are included in assessment), PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
91. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Howth Head Coast SPA breeding kittiwake population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis in Volume 7** of this NIS.
92. Proportional impacts to the SPA population, calculated as collision mortality divided by the SPA breeding population size (3,546 individuals – 2018), are provided in **Table 3.23**.

Table 3.23: Proportional impacts to Howth Head Coast SPA breeding kittiwake population used in PVA for assessment of in-combination collision impacts

Turbine configuration	Collision mortality as a proportion of SPA population (PVA proportional mortality input)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.00010	0.00081	0.00177	0.00241
Design B	0.00009	0.00080	0.00175	0.00240

93. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.24**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.24: Counterfactual output values from PVA for in-combination collision impacts to Howth Head Coast SPA breeding kittiwake population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.99981	0.99667	0.99902	0.97568	0.99791	0.94731	0.99711	0.92744
Design B	0.99988	0.99708	0.99903	0.97588	0.99797	0.94926	0.99715	0.92885

94. The Howth Head Coast SPA breeding population of kittiwake decreased from a total of 4,658 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 3,546 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – from surveys in 2018) – a decline of 23.87%.
95. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
96. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI ‘maintaining itself on a long-term basis.
97. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
98. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., ‘tipping-points’ causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.

99. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
100. At Howth Head Coast SPA, where the kittiwake breeding population appears to be gradually decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity Ref).
101. CGR values of in-combination collision impacts to the kittiwake SCI of Howth Head Coast SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.997 for array site Design Options A and B (Table A). A CGR threshold of 0.997 (i.e., if CGR values less than 0.997 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
102. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
103. In-combination collision impacts to the kittiwake SCI of Howth Head Coast SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.19**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
104. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.19**.

3.8 Ireland's Eye SPA (IE004117)

105. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: kittiwake, cormorant, herring gull, guillemot, razorbill. A summary of the in-combination assessment is provided in **Table 3.25**, with the details provided in **Table 3.26**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.25: Summary of adverse effects on site integrity (in-combination) - Ireland's Eye SPA

Objective: Attributes and Targets	Predicted effect [Attribute(s) potentially affected]	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future; 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Kittiwake [A188]				
	Direct effects on habitat [1,3]	Section 4.6 of Volume 5 Part 2	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Herring gull [A184]				
	Direct effects on habitat [1,3]	Section 4.6 of Volume 5 Part 2	None	No change	No AESI
	Disturbance and displacement [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Guillemot [A199]				
	Direct effects on habitat [1,3]	Section 4.6 of Volume 5 Part 2	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Razorbill [A200]				
	Direct effects on habitat [1,3]	Section 4.6 of Volume 5 Part 2	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Cormorant [A117]				
	Direct effects on habitat [1,3]	Section 4.6 of Volume 5 Part 2	None	No change	No AESI
	Disturbance and displacement [1,3]		None	No change	No AESI
	Disturbance and displacement [1,3]		None	No change	No AESI
	Changes in prey availability 1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.26: In-combination assessment of adverse effects on site integrity for Ireland's Eye SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake, herring gull, guillemot, razorbill, cormorant	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.25.</p>
		Kittiwake, herring gull, guillemot, razorbill, cormorant	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.25 .
	O&M	Kittiwake, herring gull, guillemot, razorbill, cormorant	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.25.</p>
		Kittiwake, herring gull, guillemot, razorbill, cormorant	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.25 .
Disturbance and displacement	Construction	Guillemot – Indirect habitat loss and barrier effects	Array site	See Section 3.8.1 No in-combination AESI .
		Razorbill – Indirect habitat loss and barrier effects	Array site	See Section 3.8.2 No in-combination AESI .
		Cormorant- Indirect habitat loss	Array site	<p>Ireland's Eye SPA is the only designated site with a breeding cormorant SCI which lies within this species' mean maximum (+1 SD) foraging range from the array site (33.9 km; Woodward et al., 2019). Although cormorant are insensitive to disturbance and displacement from the presence of array site infrastructure, they are considered to be moderately sensitive to disturbance from vessel movements. As disturbance areas of cormorant around vessels are typically small (i.e., mean area 0.209 km² calculated from published disturbance response range – Fliessbach et al., 2019; See Section 4.6 of Volume 5 Part 2), with only a small part of the array site within the theoretical foraging range of breeding cormorant from Ireland's Eye SPA (i.e., on an ex situ basis) and very few cormorant recorded within the array site during baseline surveys, the Ireland's Eye SPA cormorant SCI is assessed to experience only negligible disturbance and displacement impacts from construction phase vessel activity within the array site.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Cormorant breeding within Ireland's Eye SPA may also experience ex situ disturbance and displacement from vessel activity associated with those other projects listed in which are also within this species' mean maximum (+ 1 SD) foraging range, in particular from construction phase activity associated with the Dublin Array and North Irish Sea Array OWFs. Potential disturbance areas associated with construction vessel activity within these sites will also be negligible in relation to the foraging range extent of cormorant from Ireland's Eye SPA.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement to the cormorant SCI of Ireland's Eye SPA from construction phase activities within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.25.</p>
		Guillemot, razorbill, cormorant – Indirect habitat loss	OECC	<p>Project-only construction phase impacts arising from disturbance and displacement within the OECC on an ex situ basis are considered to represent a negligible proportion of habitats available to seabird SCIs of Ireland's Eye SPA during breeding, migration and wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>These SCIs of Ireland's Eye SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs of Ireland's Eye SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.25.</p>
	O&M	Guillemot – indirect habitat loss and barrier effects	Array site	See Section 3.8.3 No in-combination AESI .
		Razorbill – indirect habitat loss and barrier effects	Array site	See Section 3.8.4 No in-combination AESI .
		Cormorant – indirect habitat loss	Array site	<p>Ireland's Eye SPA is the only designated site with a breeding cormorant SCI which lies within this species' mean maximum (+1 SD) foraging range from the Array site (33.9 km; Woodward et al., 2019). Although cormorant are insensitive to disturbance and displacement from the presence of array site infrastructure, they are considered to be moderately sensitive to disturbance from vessel movements. As disturbance areas of cormorant around vessels are typically small (i.e., mean area 0.209 km² calculated from published disturbance response range – Fliessbach et al., 2019; See Section 4.6 of Volume 5 Part 2), with only a small part of the array site within the theoretical foraging range of breeding cormorant from Ireland's Eye SPA (i.e., on an ex situ basis) and very few cormorant recorded within the array site during baseline surveys, the Ireland's Eye SPA cormorant SCI is assessed to experience only negligible disturbance and displacement impacts from operation and maintenance phase vessel activity within the array site. Vessel activity during this phase of the project is expected to occur at lower levels than during the construction phase of the project.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Cormorant breeding within Ireland's Eye SPA may also experience disturbance and displacement from vessel activity associated with those other projects listed in Table 3.1, above, which are also within this species' mean maximum (+ 1 SD) foraging range during the operation and maintenance phase of the CWP Project (in particular from construction phase activity associated with the Dublin Array and North Irish Sea Array OWFs). Potential disturbance areas associated with construction vessel activity within these sites will also be negligible in relation to the foraging range extent of cormorant from Ireland's Eye SPA.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement to the cormorant SCI of Ireland's Eye SPA from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.25.</p>
		Guillemot, razorbill, cormorant – indirect habitat loss	OECC	<p>Potential for disturbance and displacement within the OECC on an ex situ basis during the operation and maintenance phase of the project is limited to works associated with routine monitoring activity and maintenance or repair events over the operational lifetime of the project. Project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of ex situ habitats available to seabird SCIs of Ireland's Eye SPA during breeding, migration and wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>These SCIs of Ireland's Eye SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, above, which are also within this species' mean maximum (+ 1 SD) foraging range during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs of Ireland's Eye SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.25.</p>
Changes in prey availability	Construction	Kittiwake, herring gull, guillemot, razorbill, cormorant	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.25.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M	Kittiwake, herring gull, guillemot, razorbill, cormorant	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.25.</p>
		Kittiwake, herring gull, guillemot, razorbill, cormorant	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.25.</p>
		Kittiwake, herring gull, guillemot, razorbill, cormorant	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.25.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.8.5 No in-combination AESI .
		Herring gull	Array site	See Section 3.8.6 No in-combination AESI .
		Cormorant	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, and as all other OWF projects listed in are beyond the mean maximum foraging range (+ 1 SD) of this species from Ireland's Eye SPA, it is considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Ireland's Eye SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.25.</p>

3.8.1 Disturbance and displacement – Construction – Guillemot – Array site

106. **Table 3.27** provides the predicted displacement mortality to the breeding guillemot SCI of Ireland's Eye SPA resulting from array site construction phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers based upon the evidence-led operation and maintenance phase rate of 50% displacement, with 1% resultant mortality.
107. As outlined for project-only assessment of construction phase disturbance and displacement impacts within the array site, for construction phase activities displacement rates are taken to be half of those during the operation and maintenance phase (with resultant mortality rates as per during the operation and maintenance phase). For the purpose of in-combination assessment it is a precautionary approach is adopted that Tier 1 projects are within their operational phase (hence assessed as causing 50% displacement with 1% resultant mortality) and Tier 2 projects (including the CWP Project) are within their construction phase (hence assessed as causing 25% displacement with 1% resultant mortality).

Table 3.27: In-combination guillemot construction phase displacement mortality from evidence-led impact ratios

Impact scenarios Displacement % : Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.439	1.039	4.287	4.812

108. SPA annual mortality of guillemot, taken as the average annual mortality rate of adults (6.1% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (4,410 individuals – 2015), is estimated to be 269.010 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.28**.

Table 3.28: In-combination guillemot construction phase displacement mortality impacts apportioned to Ireland's Eye SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.16%	0.39%	1.59%	1.79%

109. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where other Tier 2a projects and other Tier 2a plus Tier 2b projects are included in assessment), PVA is required to determine if additional mortality from in-combination displacement impacts represents an AESI to the SPA through its consequences to the guillemot SCI breeding population.
110. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Ireland's Eye SPA breeding guillemot population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.
111. Proportional impacts to the SPA population, calculated as displacement mortality divided by the SPA breeding population size (4,410 individuals – 2015), are provided in **Table 3.29**.

Table 3.29: Proportional impacts to Ireland's Eye SPA breeding guillemot population used in PVA for assessment of in-combination construction phase displacement impacts

Impact scenario	Density independent PVA inputs			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.00010	0.00024	0.00097	0.00109

112. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.30**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.30: Counterfactual output values from PVA for in-combination construction phase displacement impacts to Ireland's Eye SPA breeding guillemot population

Density independent PVA outputs							
CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
0.99989	0.99698	0.99972	0.99252	0.99890	0.97116	0.99879	0.96853

113. The Ireland's Eye SPA breeding population of guillemot increased from a total of 2,191 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 4410 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 101.28%.
114. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
115. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI 'maintaining itself on a long-term basis.
116. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
117. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., 'tipping-points' causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
118. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing

population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.

119. At Ireland's Eye SPA, where the guillemot breeding population appears to be rapidly increasing, consideration is required as to whether additional impacts may change the population trends of this SCI such that the population becomes unable to maintain itself. In this circumstance (as opposed to for a stable or decreasing population) a lower CGR value than 0.995 is considered permissible in the determination of no AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
120. CGR values of in-combination construction phase displacement impacts to the guillemot SCI of Ireland's Eye SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.998 for evidence led displacement values. A CGR threshold of 0.998 (i.e., if CGR values less than 0.998 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
121. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
122. In-combination construction phase disturbance and displacement impacts to the guillemot SCI of Ireland's Eye SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.25**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
123. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of construction phase disturbance and displacement impacts from the presence of infrastructure and construction activities within the array site with regard to SCI Conservation Objectives stated in **Table 3.25**.

3.8.2 Disturbance and displacement – Construction – Razorbill – Array site

124. **Table 8.31** provides the predicted displacement mortality to the breeding razorbill SCI of Ireland's Eye SPA resulting from array site construction phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers based upon the evidence-led operation and maintenance phase rate of 50% displacement, with 1% resultant mortality.
125. As outlined for project-only assessment of construction phase disturbance and displacement impacts within the array site, for construction phase activities displacement rates are taken to be half of those during the operation and maintenance phase (with resultant mortality rates as per during the operation and maintenance phase). For the purpose of in-combination assessment a precautionary approach is adopted that Tier 1 projects are within their operational phase (hence assessed as causing 50% displacement with 1% resultant mortality) and Tier 2 projects (including the CWP Project) are within their construction phase (hence assessed as causing 25% displacement with 1% resultant mortality).

Table 3.31: In-combination razorbill construction phase displacement mortality from evidence-led impact ratios

Impact scenarios Displacement % : Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.163	0.223	0.656	0.853

126. SPA annual mortality of razorbill, taken as the average annual mortality rate of adults (10.5% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (1,600 individuals – 2015), is estimated to be 168 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.32**.

Table 3.32: In-combination razorbill construction phase displacement mortality impacts apportioned to Ireland's Eye SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 Tier 2 / 50:1 Tier 1	0.10%	0.13%	0.39%	0.51%

127. The Ireland's Eye SPA breeding population of razorbill increased from a total of 522 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 1600 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 206.51%.
128. As additional mortality to the razorbill SCI of Ireland's Eye SPA resulting from in-combination construction phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (much less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.25**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
129. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
130. In consideration of Tier 1 and Tier 2 projects, in-combination construction phase disturbance and displacement impacts to the razorbill SCI of Ireland's Eye SPA will not adversely affect the Conservation Objective of the SPA to maintain or restore the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.25**.

3.8.3 Disturbance and displacement – Operation and Maintenance – Guillemot – Array site

131. **Table 3.33** provides the predicted displacement mortality to the breeding guillemot SCI of Ireland's Eye SPA resulting from array site operation and maintenance phase activities at CWP Project alone

and CWP Project in-combination with projects from other tiers for the evidence-led operational phase displacement rate of 50%, with 1% resultant mortality.

Table 3.33: In-combination guillemot operation and maintenance phase displacement mortality from evidence-led impact ratios

Impact scenarios Displacement %: Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.878	1.478	7.973	9.023

132. SPA annual mortality of guillemot, taken as the average annual mortality rate of adults (6.1% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (4,410 individuals – 2015), is estimated to be 269.010 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.34**.

Table 3.34: In-combination guillemot operation and maintenance phase displacement mortality impacts apportioned to Ireland's Eye SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 Tiers 1 and 2	0.33%	0.55%	2.96%	3.35%

133. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where other Tier 2a projects and other Tier 2a plus Tier 2b projects are included in assessment), PVA is required to determine if additional mortality from in-combination displacement impacts represents an AESI to the SPA through its consequences to the guillemot SCI breeding population.
134. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Ireland's Eye SPA breeding guillemot population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.
135. Proportional impacts to the SPA population, calculated as displacement mortality divided by the SPA breeding population size (4,410 individuals – 2015), are provided in **Table 3.35**.

Table 3.35: Proportional impacts to Ireland's Eye SPA breeding guillemot population used in PVA for assessment of in-combination operation and maintenance phase displacement impacts

Impact scenario	Density independent PVA inputs			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.00020	0.00034	0.00181	0.00205

136. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.36**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.36: Counterfactual output values from PVA for in-combination operation and maintenance phase displacement impacts to Ireland's Eye SPA breeding guillemot population]

Impact scenario	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
50:1 (Tiers 1 and 2)	0.99977	0.99400	0.99961	0.99006	0.99796	0.94805	0.99770	0.94260

137. The Ireland's Eye SPA breeding population of guillemot increased from a total of 2,191 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 4410 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 101.28%.
138. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
139. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI “maintaining itself on a long-term basis” **Table 3.25**.
140. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
141. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., ‘tipping-points’ causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
142. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
143. At Ireland's Eye SPA, where the guillemot breeding population appears to be rapidly increasing, consideration is required as to whether additional impacts may change the population trends of this SCI such that the population becomes unable to maintain itself. In this circumstance (as opposed to for a stable or decreasing population) a lower CGR value than 0.995 is considered permissible in the determination of no AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
144. CGR values of in-combination operation and maintenance phase displacement impacts to the guillemot SCI of Ireland's Eye SPA for the most inclusive in-combination scenarios (i.e. the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.997 for evidence led displacement values. A CGR threshold of 0.997 (i.e., if CGR values less than 0.997 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF

applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).

145. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
146. In-combination disturbance and displacement impacts during the operation and maintenance phase to the guillemot SCI of Ireland's Eye SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.25**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
147. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of operation and maintenance phase disturbance and displacement impacts from the presence of infrastructure and maintenance activities within the array site with regard to SCI Conservation Objectives stated in **Table 3.25**.

3.8.4 Disturbance and displacement – Operation and Maintenance – Razorbill – Array site

148. **Table 3.37** provides the predicted displacement mortality to the breeding razorbill SCI of Ireland's Eye SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for the evidence-led operational phase displacement rate of 50%, with 1% resultant mortality.

Table 3.37: In-combination razorbill operation and maintenance phase displacement mortality from evidence-led impact ratios

Impact scenarios Displacement %: Mortality %	Predicted displacement mortality for Cumulative scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.326	0.386	1.251	1.646

149. SPA annual mortality of razorbill, taken as the average annual mortality rate of adults (10.5% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (1,600 individuals – 2015), is estimated to be 168 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.38**.

Table 3.38: In-combination razorbill operation and maintenance phase displacement mortality impacts apportioned to Ireland's Eye SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual regional mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.19%	0.23%	0.74%	0.98%

150. The Ireland's Eye SPA breeding population of razorbill increased from a total of 522 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 1600 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 206.51%.
151. As additional mortality to the razorbill SCI of Ireland's Eye SPA resulting from in-combination operation and maintenance phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.25**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
152. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
153. In-combination operation and maintenance phase disturbance and displacement impacts to the razorbill SCI of Ireland's Eye SPA will not adversely affect the Conservation Objective of the SPA to maintain or restore the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.25**.

3.8.5 Collision – Operation and Maintenance – Kittiwake – Array site

154. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Ireland's Eye SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.25**.
155. **Table 3.39** provides the predicted collision mortality apportioned to the kittiwake SCI of Ireland's Eye SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Representative Scenarios A and B.

Table 3.39: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Ireland's Eye SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.082	1.361	1.951	2.481
Design B	0.071	1.35	1.94	2.47

156. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (802 individuals – 2016, Newton et al., 2016), is estimated to be 117.092 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.40**.

Table 3.40: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Ireland's Eye SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.07%	1.16%	1.67%	2.12%
Design B	0.06%	1.15%	1.66%	2.11%

157. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where Tier 2b are included in assessment), PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
158. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Ireland's Eye SPA breeding kittiwake population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.
159. Proportional impacts to the SPA population, calculated as collision mortality divided by the SPA breeding population size (802 individuals – 2016), are provided in **Table 3.41**.

Table 3.41: Proportional impacts to Ireland's Eye SPA breeding kittiwake population used in PVA for assessment of in-combination collision impacts

Turbine configuration	Collision mortality as a proportion of SPA population (PVA proportional mortality input)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.00010	0.00170	0.00243	0.00309
Design B	0.00009	0.00168	0.00242	0.00308

160. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.42**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.42: Counterfactual output values from PVA for in-combination collision impacts to Ireland's Eye SPA breeding kittiwake population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.99986	1.00079	0.99804	0.95123	0.99707	0.92705	0.99632	0.90938
Design B	0.99984	0.99551	0.99802	0.95155	0.99704	0.92857	0.99629	0.91220

161. The Ireland's Eye SPA breeding population of kittiwake decreased from a total of 1,882 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 910 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – from surveys in 2015), and subsequently to 802 individuals (from surveys in 2016) – declines of 51.65% and 57.39%, respectively.
162. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
163. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI “maintaining itself on a long-term basis” **Table 3.25**.
164. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
165. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., ‘tipping-points’ causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
166. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
167. At Ireland's Eye SPA, where the kittiwake breeding population appears to be decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
168. CGR values of in-combination collision impacts to the kittiwake SCI of Ireland's Eye SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.996 for array site Representative Scenarios A and B (Table A). A CGR threshold of 0.996 (i.e., if CGR values less than 0.996 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
169. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
170. In-combination collision impacts to the kittiwake SCI of Ireland's Eye SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.25**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.

171. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.25**.

3.8.6 Collision – Operation and Maintenance – Herring gull – Array site

172. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of herring gull from Ireland's Eye SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.25**.
173. **Table 3.43** provides the predicted collision mortality apportioned to the herring gull SCI of Ireland's Eye SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.43: In-combination herring gull operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Ireland's Eye SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.814	0.814	2.194	2.844
Design B	0.689	0.689	2.069	2.719

174. SPA annual mortality of herring gull, taken as the average annual mortality rate of adults (16.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (636 individuals – 2015), is estimated to be 105.576 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.44**.

Table 3.44: In-combination herring gull operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Ireland's Eye SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.77%	0.77%	2.08%	2.69%
Design B	0.65%	0.65%	1.96%	2.58%

175. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where Tier 2b are included in assessment), PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
176. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Ireland's Eye SPA breeding herring gull population was

undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.

177. Proportional impacts to the SPA population, calculated as collision mortality divided by the SPA breeding population size (636 individuals – 2015), are provided in **Table 3.45**.

Table 3.45: Proportional impacts to Ireland's Eye SPA breeding herring gull population used in PVA for assessment of in-combination collision impacts

Turbine configuration	Collision mortality as a proportion of SPA population (PVA proportional mortality input)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.00128	0.00128	0.00345	0.00447
Design B	0.00108	0.00108	0.00325	0.00428

178. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.46**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.46: Counterfactual output values from PVA for in-combination collision impacts to Ireland's Eye SPA breeding herring gull population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.99868	0.96610	0.99838	0.95726	0.99582	0.89823	0.99466	0.86888
Design B	0.99856	0.96552	0.99889	0.96907	0.99608	0.90176	0.99487	0.87222

179. The Ireland's Eye SPA breeding population of herring gull increased from a total of 492 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 636 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2018) – an increase of 29.27%.
180. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
181. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI 'maintaining itself on a long-term basis.
182. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a

meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.

183. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., 'tipping-points' causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
184. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
185. At Ireland's Eye SPA, where the herring gull breeding population appears to be gradually increasing, consideration is required as to whether additional impacts may change the population trends of this SCI such that the population becomes unable to maintain itself. In this circumstance (as opposed to for a stable or decreasing population) a lower CGR value than 0.995 is considered permissible in the determination of no AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
186. CGR values of in-combination collision impacts to the herring gull SCI of Ireland's Eye SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.994 for array site Representative Scenarios A and B (Table A). In light of the apparent long-term increasing breeding population size of herring gull at this SPA, the comparatively low CGR threshold of 0.994 (i.e., if CGR values less than 0.994 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
187. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
188. In-combination collision impacts to the herring gull SCI of Ireland's Eye SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.25**. Specifically, this small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
189. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.25**.

3.9 Lambay Island SPA (IE004069)

190. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant and greylag goose. A summary of the in-combination assessment is provided in **Table 3.47**, with the details provided in **Table 3.48**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.47: Summary of adverse effects on site integrity (in-combination) - Lambay Island SPA

Objective: Attributes and Targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Kittiwake [A188]				
	Direct effects on habitat [1,3]	Section 4.7 of Volume 5 Part 2	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]		See high-level assessment in Section 3.1.		
	Herring gull [A184]				
	Direct effects on habitat [1,3]	Section 4.7 of Volume 5 Part 2	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Lesser black-backed gull [A183]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Guillemot [A199]				
	Direct effects on habitat [1,3]	Section 4.7 of Volume 5 Part 2	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Razorbill [A200]				
	Direct effects on habitat [1,3]	Section 4.7 of Volume 5 Part 2	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Puffin [A204]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI

Objective: Attributes and Targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Cormorant [A017]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and displacement [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1.			No AESI
	Greylag goose [A043] – See Section 3.41				

Table 3.48: In-combination assessment of adverse effects on site integrity for Lambay Island SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and /</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
Disturbance and displacement				<p>minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 4.42 of Volume 5 Part 2 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	Construction	Guillemot – Indirect habitat loss and barrier effects	Array site	See Section 3.9.1 No in-combination AESI .
		Razorbill – Indirect habitat loss and barrier effects	Array site	See Section 3.9.2 No in-combination AESI .
		Puffin – indirect habitat loss and barrier effects	Array site	<p>Project-only disturbance and displacement impacts associated with construction phase activities within the array site on an ex situ basis to the puffin SCI of Lambay Island SPA are assessed to be negligible (a total of 0.008 individuals per annum [one mortality per 125 years], representing a 0.031% increase to SPA mortality rates for evidence-led central value displacement figures – see Section 4.7 of Volume 5 Part 2). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Lambay Island SPA cannot possibly contribute to AESI as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Lambay Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Lambay Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose – barrier effects	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Guillemot, razorbill, puffin, cormorant – indirect habitat loss	OECC	Project-only construction phase impacts arising from disturbance and displacement within the OECC on an ex situ basis are considered to represent a negligible proportion of habitats available to seabird SCIs of Lambay Island SPA during breeding, migration and wintering periods (Section 4.7 of Volume 5 Part 2). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5 , the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>Although these SCIs of Lambay Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs of Lambay Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose – indirect habitat loss	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 7.40: Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Guillemot – Indirect habitat loss and barrier effects	Array site	See Section 3.9.3 No in-combination AESI .
		Razorbill – Indirect habitat loss and barrier effects	Array site	See Section 3.9.4 No in-combination AESI .
		Puffin – indirect habitat loss and barrier effects	Array site	<p>Project-only disturbance and displacement impacts associated with operation and maintenance phase activities on an ex situ basis within the array site to the puffin SCI of Lambay Island SPA are assessed to be negligible (a total of 0.017 individuals per annum [one mortality per 58.8 years], representing a 0.063% increase to SPA mortality rates for evidence-led central value displacement figures – see Section 4.7 of Volume 5 Part 2). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Lambay Island SPA cannot possibly contribute to AESI as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Lambay Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Lambay Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose – barrier effects	Array site	The in-combination assessment for this species is addressed in Section 2 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Guillemot, razorbill, puffin, cormorant – indirect habitat loss	OECC	<p>Potential for disturbance and displacement within the OECC on an ex situ basis during the operational phase of the project is limited to works associated with routine monitoring activity and maintenance or repair events over the operational lifetime of the project. Project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to seabird SCIs of Lambay Island SPA during breeding, migration and wintering periods (Section 4.7 of Volume 5 Part 2).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although these SCIs of Lambay Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
Changes in prey availability	Construction			<p>impacts to these SCIs of Lambay Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from operation and maintenance phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose – indirect habitat loss	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 4.42 of Volume 5 Part 2 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.47.</p>
	Construction	Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M	Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Kittiwake, fulmar, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, cormorant	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.47.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
		Greylag goose	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 of Volume 5 Part 2 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI.
Collision	O&M	Kittiwake	Array site	See Section 3.9.5 No in-combination AESI.
		Herring gull	Array site	See Section 3.9.6 No in-combination AESI.
		Lesser black-backed gull	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision mortality impacts to this SCI of Lambay Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.47.</p>
		Greylag goose	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI.

3.9.1 Disturbance and displacement – Construction – Guillemot – Array site

191. **Table 3.49** provides the predicted displacement mortality to the breeding guillemot SCI of Lambay Island SPA resulting from array site construction phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers based upon the evidence-led operation and maintenance phase rate of 50% displacement, with 1% resultant mortality.
192. As outlined for project-only assessment of construction phase disturbance and displacement impacts within the array site, for construction phase activities displacement rates are taken to be half of those during the operation and maintenance phase (with resultant mortality rates as per during the operation and maintenance phase). For the purpose of in-combination assessment a precautionary approach is adopted that Tier 1 projects are within their operational phase (hence assessed as causing 50% displacement with 1% resultant mortality) and Tier 2 projects (including CWP) are within their construction phase (hence assessed as causing 25% displacement with 1% resultant mortality).

Table 3.49: In-combination guillemot construction phase displacement mortality impacts apportioned to Lambay Island SPA from evidence-led impact ratios

Impact scenarios Displacement % : Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	4.751	17.251	44.771	52.409

193. SPA annual mortality of guillemot, taken as the average annual mortality rate of adults (6.1% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (59,983 individuals – 2015), is estimated to be 3,658.963 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.50**.

Table 3.50: In-combination guillemot construction phase displacement mortality impacts apportioned to Lambay Island SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.13%	0.47%	1.22%	1.43%

194. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where other Tier 2a projects and other Tier 2a plus Tier 2b projects are included in assessment), PVA is required to determine if additional mortality from in-combination displacement impacts represents an AESI to the SPA through its consequences to the guillemot SCI breeding population.
195. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Lambay Island SPA breeding guillemot population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis in Volume 7** of this NIS.
196. Proportional impacts to the SPA population, calculated as displacement mortality divided by the SPA breeding population size (59,983 individuals – 2015), are provided in **Table 3.51**.

Table 3.51: Proportional impacts to Lambay Island SPA breeding guillemot population used in PVA for assessment of in-combination construction phase displacement impacts

Impact scenario	Density independent PVA inputs			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.00008	0.00029	0.00075	0.00087

197. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.52**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017) however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.52: Counterfactual output values from PVA for in-combination construction phase displacement impacts to Lambay Island SPA breeding guillemot population

Impact scenario	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
25:1 (Tier 2) / 50:1 (Tier 1)	0.99991	0.99778	0.99968	0.99172	0.99916	0.97847	0.99903	0.97516

198. The Lambay Island SPA breeding population of guillemot remained approximately stable between surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002) and surveys for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015), with a breeding population of 60,754 individuals for the former and 59,983 for the later (a decline of 1.27%).
199. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
200. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI ‘maintaining itself on a long-term basis.
201. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
202. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., ‘tipping-points’ causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
203. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while

the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.

204. At Lambay Island SPA, where the guillemot breeding population appears to be relatively stable, consideration is required as to whether additional impacts may change the population trends of this SCI such that the population becomes unable to maintain itself. In this circumstance a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
205. CGR values of in-combination construction phase displacement impacts to the guillemot SCI of Lambay Island SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.999 for evidence led displacement values. A CGR threshold of 0.999 (i.e., if CGR values less than 0.999 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
206. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
207. In-combination construction phase disturbance and displacement impacts to the guillemot SCI of Lambay Island SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.47**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
208. Consequently, there is assessed to be **no in-combination AESI** as a result of construction phase disturbance and displacement impacts from the presence of infrastructure and construction activities within the array site with regard to SCI Conservation Objectives stated in **Table 3.47**.

3.9.2 Disturbance and displacement – Construction – Razorbill – Array site

209. **Table 3.53** provides the predicted displacement mortality to the breeding razorbill SCI of Lambay Island SPA resulting from array site construction phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers based upon the evidence-led operation and maintenance phase rate of 50% displacement, with 1% resultant mortality.
210. As outlined for project-only assessment of construction phase disturbance and displacement impacts within the array site, for construction phase activities displacement rates are taken to be half of those during the operation and maintenance phase (with resultant mortality rates as per during the operation and maintenance phase). For the purpose of in-combination assessment a precautionary approach is adopted that Tier 1 projects are within their operational phase (hence assessed as causing 50% displacement with 1% resultant mortality) and Tier 2 projects (including the CWP Project) are within their construction phase (hence assessed as causing 25% displacement with 1% resultant mortality).

Table 3.53: In-combination razorbill construction phase displacement mortality impacts apportioned to Lambay Island SPA from evidence-led impact ratios

Impact scenarios Displacement % : Mortality %	Predicted displacement mortality for cumulative scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.592	1.052	2.375	3.697

211. SPA annual mortality of razorbill, taken as the average annual mortality rate of adults (10.5% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (7,353 individuals – 2015), is estimated to be 772.065 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.54**.

Table 3.54: In-combination razorbill construction phase displacement mortality impacts apportioned to Lambay Island SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual regional mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.08%	0.14%	0.31%	0.48%

212. The Lambay Island SPA breeding population of razorbill increased from a total of 4,337 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 7,353 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 69.54%.
213. As additional mortality to the razorbill SCI of Lambay Island SPA resulting from in-combination construction phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (much less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.47**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
214. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
215. In-combination construction phase disturbance and displacement impacts to the razorbill SCI of Lambay Island SPA will not adversely affect the Conservation Objective of the SPA to maintain or restore the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.47**.

3.9.3 Disturbance and displacement – Operation and Maintenance – Guillemot – Array site

216. **Table 3.55** provides the predicted displacement mortality to the breeding guillemot SCI of Lambay Island SPA resulting from array site operation and maintenance phase activities at CWP Project alone

and CWP Project in-combination with projects from other tiers for the evidence-led operational phase displacement rate of 50%, with 1% resultant mortality.

Table 3.55: In-combination guillemot operation and maintenance phase displacement mortality impacts apportioned to Lambay Island SPA from evidence-led impact ratios

Impact scenarios Displacement %: Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 Tiers 1 and 2	9.502	22.002	77.042	92.317

217. SPA annual mortality of guillemot, taken as the average annual mortality rate of adults (6.1% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (59,983 individuals – 2015), is estimated to be 3,658.963 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.56**.

Table 3.56: In-combination guillemot operation and maintenance phase displacement mortality impacts apportioned to Lambay Island SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 Tiers 1 and 2	0.26%	0.60%	2.11%	2.52%

218. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where other Tier 2a projects and other Tier 2a plus Tier 2b projects are included in assessment), PVA is required to determine if additional mortality from in-combination displacement impacts represents an AESI to the SPA through its consequences to the guillemot SCI breeding population.
219. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Lambay Island SPA breeding guillemot population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.
220. Proportional impacts to the SPA population, calculated as displacement mortality divided by the SPA breeding population size (59,983 individuals – 2015), are provided in **Table 3.57**.

Table 3.57: Proportional impacts to Lambay Island SPA breeding guillemot population used in PVA for assessment of in-combination operation and maintenance phase displacement impacts

Impact scenario	Density independent PVA inputs			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 Tiers 1 and 2	0.00016	0.00037	0.00128	0.00154

221. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.58**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.58: Counterfactual output values from PVA for in-combination operation and maintenance phase displacement impacts to Lambay Island SPA breeding guillemot population

Impact scenario	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
50:1 (Tiers 1 and 2)	0.99981	0.99528	0.99958	0.98927	0.99858	0.96365	0.99829	0.95636

222. The Lambay Island SPA breeding population of guillemot remained approximately stable between surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002) and surveys for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015), with a breeding population of 60,754 individuals for the former and 59,983 for the later (a decline of 1.27%).
223. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
224. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI 'maintaining itself on a long-term basis.
225. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
226. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., 'tipping-points' causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
227. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
228. At Lambay Island SPA, where the guillemot breeding population appears to be relatively stable, consideration is required as to whether additional impacts may change the population trends of this SCI such that the population becomes unable to maintain itself. In this circumstance a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
229. CGR values of in-combination operation and maintenance phase displacement impacts to the guillemot SCI of Lambay Island SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.998 for evidence led

displacement values. A CGR threshold of 0.998 (i.e., if CGR values less than 0.998 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022)

230. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
231. In-combination disturbance and displacement impacts during the operation and maintenance phase to the guillemot SCI of Lambay Island SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.47**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
232. Consequently, there is assessed to be **no in-combination AESI** as a result of operation and maintenance phase disturbance and displacement impacts from the presence of infrastructure and maintenance activities within the array site with regard to SCI Conservation Objectives stated in **Table 3.47**.

3.9.4 Disturbance and displacement – Operation and Maintenance – Razorbill – Array site

233. **Table 3.59** provides the predicted displacement mortality to the breeding razorbill SCI of Lambay Island SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for the evidence-led operational phase displacement rate of 50%, with 1% resultant mortality.

Table 3.59: In-combination razorbill operation and maintenance phase displacement mortality impacts apportioned to Lambay Island SPA from evidence-led impact ratios

Impact scenarios Displacement %: Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 Tiers 1 and 2	1.184	1.644	4.289	6.934

234. SPA annual mortality of razorbill, taken as the average annual mortality rate of adults (10.5% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (7,353 individuals – 2015), is estimated to be 772.065 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.60**.

Table 3.60: In-combination razorbill operation and maintenance phase displacement mortality impacts apportioned to Lambay Island SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 Tiers 1 and 2	0.15%	0.21%	0.56%	0.90%

235. The Lambay Island SPA breeding population of razorbill increased from a total of 4,337 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 7,353 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 69.54%.
236. As additional mortality to the razorbill SCI of Lambay Island SPA resulting from in-combination operation and maintenance phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.47**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
237. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
238. In-combination operation and maintenance phase disturbance and displacement impacts to the razorbill SCI of Lambay Island SPA will not adversely affect the Conservation Objective of the SPA to maintain or restore the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.47**.

3.9.5 Collision – Operation and Maintenance – Kittiwake – Array site

239. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Lambay Island SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.47**.
240. **Table 3.61** provides the predicted collision mortality apportioned to the kittiwake SCI of Lambay Island SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.61: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Lambay Island SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.531	3.591	7.451	11.701
Design B	0.462	3.522	7.382	11.632

241. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (6,640 individuals – 2015), is estimated to be 969.440 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.62**.

Table 3.62: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Lambay Island SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.05%	0.37%	0.77%	1.21%
Design B	0.05%	0.36%	0.76%	1.20%

242. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where Tier 2b are included in assessment), PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
243. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Lambay Island SPA breeding kittiwake population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.
244. Proportional impacts to the SPA population, calculated as collision mortality divided by the SPA breeding population size (6,640 individuals – 2015), are provided in **Table 3.63**.

Table 3.63: Proportional impacts to Lambay Island SPA breeding kittiwake population used in PVA for assessment of in-combination collision impacts

Turbine configuration	Collision mortality as a proportion of SPA population (PVA proportional mortality input)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.00008	0.00054	0.00112	0.00176
Design B	0.00007	0.00053	0.00111	0.00175

245. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.64**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.64: Counterfactual output values from PVA for in-combination collision impacts to Lambay Island SPA breeding kittiwake population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.99993	0.99843	0.99938	0.98552	0.99870	0.96677	0.99795	0.94850
Design B	0.9996	1.00009	0.99937	0.98472	0.99872	0.96708	0.99796	0.94885

246. The Lambay Island SPA breeding population of kittiwake decreased from a total of 8,182 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 6,640 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – from surveys in 2015) – a decline of 18.85%.
247. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
248. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI ‘maintaining itself on a long-term basis.
249. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.
250. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., ‘tipping-points’ causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
251. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence) or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
252. At Lambay Island SPA, where the kittiwake breeding population appears to be decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
253. CGR values of in-combination collision impacts to the kittiwake SCI of Lambay Island SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.997 for array site Representative Scenarios A and B (**Table 3.64**). A CGR threshold of 0.997 (i.e., if CGR values less than 0.997 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
254. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
255. In-combination collision impacts to the kittiwake SCI of Lambay Island SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.47**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.

256. Consequently, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.47**.

3.9.6 Collision – Operation and Maintenance – Herring gull – Array site

257. During the operation and maintenance phase of the CWP Project, the presence of operational WTGs within the array site may result in the mortality of herring gull from Lambay Island SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.47**.
258. **Table 3.65** provides the predicted collision mortality apportioned to the herring gull SCI of Lambay Island SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.65: In-combination herring gull operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Lambay Island SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	1.697	1.697	4.597	6.967
Design B	1.437	1.437	4.337	6.707

259. SPA annual mortality of herring gull, taken as the average annual mortality rate of adults (16.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (1,812 individuals – 2015), is estimated to be 300.792 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.66**.

Table 3.66: In-combination herring gull operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Lambay Island SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.56%	0.56%	1.53%	2.32%
Design B	0.48%	0.48%	1.44%	2.23%

260. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates (where Tier 2b are included in assessment), PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
261. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to Lambay Island SPA breeding herring gull population

was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS.

262. Proportional impacts to the SPA population, calculated as collision mortality divided by the SPA breeding population size (1,812 individuals – 2015), are provided in **Table 3.67**.

Table 3.67: Proportional impacts to Lambay Island SPA breeding herring gull population used in PVA for assessment of in-combination collision impacts

Turbine configuration	Collision mortality as a proportion of SPA population (PVA proportional mortality input)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.00094	0.00094	0.00254	0.00384
Design B	0.00079	0.00079	0.00239	0.00370

263. Counterfactual outputs from PVA models for each in-combination scenario are presented in **Table 3.68**. CGR values are considered the most appropriate reference values for interpretation of density independent PVA model outputs (Jitlal et al., 2017); however, CPS values (after a 25-year impact period, 2028–2053) are also presented.

Table 3.68: Counterfactual output values from PVA for in-combination collision impacts to Lambay Island SPA breeding herring gull population

Turbine configuration	Density independent PVA outputs							
	CWP		CWP + 1		CWP + 1 + other 2a		CWP + 1 + other 2a + 2b	
	CGR	CPS	CGR	CPS	CGR	CPS	CGR	CPS
Design A	0.99886	0.97080	0.99881	0.97059	0.99688	0.92337	0.99534	0.88669
Design B	0.99911	0.97697	0.99896	0.97430	0.99710	0.92765	0.99559	0.89192

264. The Lambay Island SPA breeding population of herring gull decreased from a total of 3,612 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 1,812 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 –from surveys in 2015) – a decline of 49.83%.
265. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
266. AESI focuses upon contravention of the Conservation Objectives of the SPA, specifically upon contravention of the attribute relating to maintenance or restoration of the favourable conservation status of the site through the achievement of the population of a designated SCI ‘maintaining itself on a long-term basis.
267. As impact levels decrease in magnitude, impacted and unimpacted population predictions become more alike (and CGR values from PVA approach 1), ascertaining whether impacts are likely to have a

meaningful long-term consequence on the ability of a designated population to maintain itself becomes increasingly difficult.

268. Considerations focus upon whether impacts are likely to meaningfully change the population trends of designated SCIs such that they become unable to maintain themselves for hitherto increasing or stable populations (i.e., 'tipping-points' causing population decline), or significantly exacerbate existing downward trends for already decreasing populations.
269. The probability that such changes will occur alters with the underlying population trends of a designated SCI. For example, small magnitude impacts (CGR values close to 1) to a rapidly increasing population are very unlikely to result in such a population no longer being able to maintain itself, while the same level of impact to a stable population may result in such an outcome (dependant on the strength of compensatory density dependence), or exacerbate the decline of an already decreasing population. As such, there are no universally applicable thresholds as to what levels of counterfactual values constitute an AESI in all instances.
270. At Lambay Island SPA, where the herring gull breeding population appears to be decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
271. CGR values of in-combination collision impacts to the herring gull SCI of Lambay Island SPA for the most inclusive in-combination scenarios (i.e., the CWP project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.995 for array site Representative Scenarios A and B (Table A). In light of the apparent long-term increasing breeding population size of herring gull at this SPA, the comparatively low CGR threshold of 0.995 (i.e., if CGR values less than 0.995 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
272. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
273. In-combination collision impacts to the herring gull SCI of Lambay Island SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.47**. Specifically, this small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
274. Consequently, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.47**.

3.10 Rockabill SPA (IE004014)

275. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: common tern, Arctic tern, and purple sandpiper. A summary of the in-combination assessment is provided in **Table 3.69**, with the details provided in **Table 3.70**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.69: Summary of adverse effects on site integrity (in-combination) - Rockabill SPA

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion	
Common tern [A193]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – Human activities should occur at levels that do not adversely affect the breeding common tern population	Direct effects on habitat [1]	N/A	None	No change	No AESI	
		Disturbance and displacement [1,2]		None	No change	No AESI	
		Changes in prey availability [1,2,4]		None	No change	No AESI	
		Collision [1,2]		None	No change	No AESI	
		Introduction or spread of INNS [1,2,4]	See high-level assessment in Section 3.1 .				No AESI
		Arctic tern [A194]					
		To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – Human activities should occur at levels that do not adversely affect the breeding Arctic tern population	Direct effects on habitat [1]	N/A	None	No change
Disturbance and displacement [1,2]	None			No change		No AESI	
Changes in prey availability [1,2,4]	None			No change		No AESI	
Collision [1,2]	None			No change		No AESI	
Introduction or spread of INNS [1,2,4]	See high-level assessment in Section 3.1 .				No AESI		
[Roseate tern [A192] – As all project development areas are sited beyond the mean-maximum (+1 SD) foraging range of this SCI (23.2 km; Woodward et al., 2019) from Rockabill SPA, this SPA is considered to lie outside the zone of influence defined in Screening.]							
Purple sandpiper [A148] – See Section 4.8 of Volume 5 Part 2							

Table 3.70: In-combination assessment of adverse effects on site integrity for Rockabill SPA

Impact	Phase	SCI(s)	Area	In-combination Assessment
Direct effects on habitat	Construction	Common tern, Arctic tern	OECC intertidal landfall	<p>Project only construction phase direct effects on ex situ habitat impacts within the intertidal segment of the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding and / or migration periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, do not directly interact with the Rockabill SPA, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, or on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This</p>

Impact	Phase	SCI(s)	Area	In-combination Assessment
	O&M			<p>is on the basis that the Tier 1 and Tier 2a and 2b project direct effects are spatially limited, do not directly interact with the Rockabill SPA, the Tier 1 and Tier 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on ex situ habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to SCIs habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal section of the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.69.</p>
		Purple sandpiper	OECC intertidal landfall	<p>The in-combination assessment for this species is addressed in Section 3.41: Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI.</p>
		Common tern, Arctic tern	OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the intertidal section of the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding and / or migration periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.2) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on ex situ habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal section of the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.69.</p>
		Purple sandpiper	OECC intertidal landfall	<p>The in-combination assessment for this species is addressed in Section 3.41: Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI.</p>
Disturbance and displacement	Construction	Common tern, Arctic tern	OECC intertidal landfall	<p>Ex situ project-only construction phase impacts arising from disturbance and displacement within the OECC intertidal landfall are considered to impact a negligible number of individuals of each SCI of this SPA during all seasons. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>These SCIs of may also experience disturbance and displacement from those other projects listed in Table 3.2, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project. It is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p>

Impact	Phase	SCI(s)	Area	In-combination Assessment
	O&M			As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC intertidal landfall with regard to SCI Conservation Objectives stated in Table 3.69 .
				Ex situ project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC intertidal landfall are considered to impact a negligible number of individuals of each SCI of this SPA during all seasons. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5 , the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
				These SCIs of may also experience disturbance and displacement from those other projects listed in Table 3.1 , which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project. it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.
	Construction	Purple sandpiper	Array site	As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from operation and maintenance phase activities within the OECC intertidal landfall with regard to SCI Conservation Objectives stated in Table 3.69 .
		Purple sandpiper	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Purple sandpiper	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Purple sandpiper	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
Changes in prey availability	Construction	Common tern, Arctic tern	OECC intertidal landfall	Project-only construction impacts arising from changes in prey availability within the intertidal segment of the OECC on an ex situ basis are considered to represent a negligible proportion of habitats available to the prey species of breeding tern SCIs. Although project-only construction phase impacts to migratory and wintering intertidal waterbirds arising from changes in prey availability within the OECC intertidal landfall are considered to be mitigated for as per the seasonal timing restrictions implemented in order to minimise disturbance and displacement impacts, breeding tern SCIs are present in greatest numbers during the late summer to early autumn (i.e., during the period of construction works). Nevertheless, any residual direct effects on habitat are considered to represent a negligible proportion of SPA habitats available to breeding tern SCIs during the breeding and / or migration periods. Project-only direct effects on habitat are assessed also to be negligible (See NIS Volume 5 Part 2, Sections 4.8). Given the high rate of recoverability of intertidal habitats, it is considered that the prey species of breeding tern SCIs would likely rapidly repopulate areas of disrupted intertidal habitat. Any residual impacts on prey availability are considered to represent a negligible proportion of SPA habitats available to breeding tern SCIs during breeding and / or migration periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. The impact footprints of changes in prey availability arising from intertidal works of other projects screened in to in-combination assessment are considered similarly negligible in this regard, provided that developers apply similar seasonal restrictions on activities within this SPA. The in-combination total project-only changes in prey availability on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to habitat use extents of the SCIs. It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.69 .
			OECC	Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible

Impact	Phase	SCI(s)	Area	In-combination Assessment
				<p>size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.69.</p>
		Purple sandpiper	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Common tern, Arctic tern	OECC intertidal landfall	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the intertidal segment of the OECC represent a negligible proportion of habitats available to the prey species of seabird SCIs. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to these SCIs. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to the prey species of intertidal waterbird SCIs under normal operation. Occasional maintenance activities may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however effects on prey species which inhabit intertidal substrate affected by such activities is considered to be negligible, relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles. Repopulation of any disrupted intertidal habitat by seabird prey species is considered to occur quickly. The magnitude of impacts to potentially sensitive intertidal waterbird prey species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The prey availability impact footprints of intertidal activities within South Dublin Bay in relation to other projects screened in for the in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total footprint of changes in prey availability for project-only, when considered alongside all other projects screened in to the in-combination assessment of this impact, is therefore considered to be negligible in relation to seabird prey species' habitat use extents, and by extension to the habitat use areas available to the SCIs themselves.</p> <p>It is considered that the negligible project-only contribution to in-combination changes in prey availability impacts to these SPA SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC intertidal landfall area with regard to SCI Conservation Objectives stated in Table 3.69.</p>
			OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered</p>

Impact	Phase	SCI(s)	Area	In-combination Assessment
Collision	O&M			<p>to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.69.</p>
		Purple sandpiper	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Common tern	Array site	<p>Project-only collision impacts to the common tern SCI of Rockabill SPA are assessed to be negligible (a total of 0.124 individuals per annum [one mortality per 8.1 years] for array site Design Option A and 0.111 individuals per annum [one mortality per 9 years] for array site Design Option B), representing a 0.026% or 0.023% increase to SPA mortality rates respectively – see Section 4.8 of Volume 5 Part 2). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality estimates to the common tern SCI of Rockabill SPA from other projects in Table 3.1 and in light of the apparent rapid increase in the breeding population of this SCI at this SPA (a 233% increase from 1,210 to 4,058 individuals between the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002) and surveys for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2016)), it is considered that any negligible project-only contribution to in-combination collision impacts to this SCIs of Rockabill SPA cannot contribute to AESI in such a way as to adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.69.</p>
		Arctic tern	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, and as all other OWF projects listed in Table 3.1 are beyond the mean maximum foraging range (+ 1 SD) of this species from this SPA, it is considered that the negligible project-only contribution to in-combination collision mortality impacts to this SCI of Rockabill SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.69.</p>
		Purple sandpiper	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .

3.11 Skerries Islands SPA (IE004122)

276. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: herring gull, light-bellied brent goose, purple sandpiper and turnstone. A summary of the in-combination assessment is provided in **Table 3.71**, with the details provided in **Table 3.72**. All effects assessed, including direct effects, are exs itu and considered in the context of the wider natural range and supporting habitats.

Table 3.71: Summary of adverse effects on site integrity (in-combination) – Skerries Islands SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI(s): <div><div>1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.</div><div>2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.</div><div>3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.</div></div>	Herring gull [A184]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 4.2 of Volume 5 Part 2			No AESI
	Light-bellied brent goose [A046] – See Section 4.9 of Volume 5 Part 2				
	Purple sandpiper [A148] – See Section 4.9 of Volume 5 Part 2				
	Turnstone [A169] – See Section 4.9 of Volume 5 Part 2				

Table 3.72: In-combination assessment of adverse effects on site integrity Skerries Islands SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Herring gull	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.71 .
		Herring gull	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Light-bellied brent goose, purple sandpiper, turnstone	OECC intertidal landfall	The in-combination assessment for these species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Herring gull	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited,</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Herring gull	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Light-bellied brent goose, purple sandpiper, turnstone	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
Disturbance and displacement	Construction	Light-bellied brent goose, purple sandpiper, turnstone	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Light-bellied brent goose, purple sandpiper, turnstone	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Light-bellied brent goose, purple sandpiper, turnstone	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
		Light-bellied brent goose, purple sandpiper, turnstone	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
Changes in prey availability	Construction	Herring gull	Array site	Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Herring gull	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Light-bellied brent goose, purple sandpiper, turnstone	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
	O&M	Herring gull	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Herring gull	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.71.</p>
		Light-bellied brent goose, purple sandpiper, turnstone	OECC intertidal landfall	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .
Collision	O&M	Herring gull	Array site	<p>Project-only collision impacts to the herring gull SCI of Skerries Islands SPA are assessed to be negligible (a total of 0.013 individuals per annum [one mortality per 76.9 years] for array site Design Option A and 0.011 individuals per annum [one mortality per 90.9 years] for array site Design Option B). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is considered that this negligible project-only contribution to in-combination collision impacts to this SCI of Skerries Islands SPA cannot contribute to AESI in such a way as to adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.71 .
		Light-bellied brent goose, purple sandpiper, turnstone	Array site	The in-combination assessment for this species is addressed in Section 3.41 : Distant SPAs designated in relation to migratory wildfowl and waders. No in-combination AESI .

3.12 Aberdaron Coast and Bardsey Island SPA (Wales – UK9013121)

277. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.74**, with the details provided in **Table 3.75**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.73: Summary of adverse effects on site integrity (in-combination) – Aberdaron Coast and Bardsey Island SPA

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Manx shearwater [A013]						
The vision for this feature is for it to be in a favourable conservation status	1. Breeding population: stable or increasing	Direct effects on habitat [1]	N/A	None	No change	No AESI
	2. Productivity rate: stable	Disturbance and displacement [1,2]		None	No change	No AESI
	3. Deaths from the lighthouse attractions, fencing and other infrastructure: minimal	Changes in prey availability [1,2]		None	No change	No AESI
	4. Ground predators: none introduced	Introduction or spread of INNS [1,2,4]	See high-level assessment in Section 3.1 .			No AESI
	5. No disturbance to nesting birds by restoration works on boundary walls or recreational activities					

Table 3.74: In-combination assessment of adverse effects on site integrity for Aberdaron Coast and Bardsey Island SPA

Impact	Phase	Feature(s)	Area	In-combination Assessment
Direct effects on habitat	Construction	Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.73.</p>
		Manx shearwater	OECC	Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5 , the proposed CWP Project will not

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.73.</p>
	O&M	Manx shearwater	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.73 .
		Manx shearwater	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.73.</p>
Disturbance and displacement	Construction	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater feature of Aberdaron Coast and Bardsey Island SPA are assessed to be negligible (a total of 0.063 individuals per annum [one mortality per 15.9 years], representing a 0.003% increase to SPA mortality rates for evidence-led central value displacement figures – see Section 4.10 of Volume 5 Part 2). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Aberdaron Coast and Bradsey Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Aberdaron Coast and Bardsey Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Aberdaron Coast and Bardsey Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.73.</p>
	O&M	Manx shearwater – indirect habitat loss and barrier effects	Array site	Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater feature of Aberdaron Coast and Bardsey Island SPA are assessed to be negligible (a total of 0.125 individuals per annum [one mortality per 8 years], representing a 0.006% increase to SPA mortality rates for evidence-led central value displacement figures – see NIS Volume 5 Part 2, Section 4.10). It is therefore considered that the negligible project-only contribution

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>to in-combination disturbance and displacement impacts to this feature of Aberdaron Coast and Bradsey Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Aberdaron Coast and Bardsey Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Aberdaron Coast and Bardsey Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to feature Conservation Objectives stated in Table 3.73.</p>
Changes in prey availability	Construction	Manx shearwater	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.73.</p>
		Manx shearwater	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.73.</p>
	O&M	Manx shearwater	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.73.</p>
		Manx shearwater	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>



Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.73.</p>

3.13 Saltee Islands SPA (IE004002)

278. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet. A summary of the in-combination assessment is provided in **Table 3.75**, with the details provided in **Table 3.76**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.75: Summary of adverse effects on site integrity (in-combination) – Saltee Islands SPA

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion		
Kittiwake [A188]								
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – No significant increase	Direct effects on habitat [1]	Section 4.11 of Volume 5 Part 2	None	No change	No AESI		
		Changes in prey availability [1,2,4]		None	No change	No AESI		
		Collision [1,2]		None	No change	No AESI		
		Introduction or spread of INNS [1,2,3,4]	See high-level assessment in Section 3.1.				No AESI	
		Fulmar [A009]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – No significant increase 7. Disturbance at marine areas immediately adjacent to the colony – No significant increase	Direct effects on habitat [1]	N/A	None	No change	No AESI		
		Changes in prey availability [1,2,4]		None	No change	No AESI		
		Introduction or spread of INNS [1,2,3,4]		See high-level assessment in Section 3.1.				No AESI
		Lesser black-backed gull [A183]						
		To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – No significant increase	Direct effects on habitat [1]	N/A	None	No change	No AESI
Changes in prey availability [1,2,4]	None			No change		No AESI		
Collision [1,2]	None			No change		No AESI		
Introduction or spread of INNS [1,2,3,4]	See high-level assessment in Section 3.1.				No AESI			
Guillemot [A199]								
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – No significant increase 7. Disturbance at marine areas immediately adjacent to the colony – No significant increase	Direct effects on habitat [1]	Section 4.11 of Volume 5 Part 2	None	No change	No AESI		
		Disturbance and displacement (including barrier effects) [1,2,5]		None	No change	No AESI		
		Changes in prey availability [1,2,4]		None	No change	No AESI		
		Introduction or spread of INNS [1,2,3,4]	See high-level assessment in Section 3.1.				No AESI	
		Razorbill [A200]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – No significant increase 7. Disturbance at marine areas immediately adjacent to the colony – No significant increase	Direct effects on habitat [1]	Section 4.11 of Volume 5 Part 2	None	No change	No AESI		
		Disturbance and displacement (including barrier effects) [1,2,5]		None	No change	No AESI		
		Changes in prey availability [1,2,4]		None	No change	No AESI		
		Introduction or spread of INNS [1,2,3,4]	See high-level assessment in Section 3.1.				No AESI	
		Puffin [A204]						
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline 2. Productivity rate – No significant decline 3. Distribution: breeding colonies – No significant decline 4. Prey biomass available – No significant decline 5. Barriers to connectivity – No significant increase 6. Disturbance at the breeding site – No significant increase 7. Disturbance at marine areas immediately adjacent to the colony – No significant increase	Direct effects on habitat [1]	N/A	None	No change	No AESI		
		Disturbance and displacement (including barrier effects) [1,2,5]		None	No change	No AESI		
		Changes in prey availability [1,2,4]		None	No change	No AESI		
		Introduction or spread of INNS [1,2,3,4]	See high-level assessment in Section 3.1.				No AESI	
		Gannet [A016]						

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population abundance – No significant decline	Direct effects on habitat [1]	N/A	None	No change	No AESI
	2. Productivity rate – No significant decline	Disturbance and displacement (including barrier effects) [1,2,5]		None	No change	No AESI
	3. Distribution: breeding colonies – No significant decline	Changes in prey availability [1,2,4]		None	No change	No AESI
	4. Prey biomass available – No significant decline	Collision [1,2]		None	No change	No AESI
	5. Barriers to connectivity – No significant increase	Introduction or spread of INNS [1,2,3,4]	See high-level assessment in Section 3.1.		No change	No AESI
	6. Disturbance at the breeding site – No significant increase					
	7. Disturbance at marine areas immediately adjacent to the colony – No significant increase					

Table 3.76: In-combination assessment of adverse effects on site integrity for Saltee Islands SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.75.</p>
	O&M	Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.75.</p>
Disturbance and displacement	Construction	Guillemot – indirect habitat loss and barrier effects	Array site	See Section 3.13.1. No in-combination AESI
		Razorbill – indirect habitat loss and barrier effects		See Section 3.13.2. No in-combination AESI
		Puffin – indirect habitat loss and barrier effects		<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the puffin SCI of Saltee Islands SPA are assessed to be negligible (a total of 0.006 individuals per annum [one mortality per 167 years], representing a 0.004% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.11). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Gannet – indirect habitat loss and barrier effects		<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the gannet SCI of Saltee Islands SPA are assessed to be negligible (a total of 0.023 individuals per annum [one mortality per 44 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.11). It is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>Although this SCI of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Guillemot, razorbill, puffin, gannet – indirect habitat loss	OECC	<p>Ex situ project-only construction phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to seabird SCIs of Saltee Islands SPA during breeding, migration and wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>These SCIs of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within these species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.75.</p>
	O&M	Guillemot – indirect habitat loss and barrier effects	Array site	See Section 3.13.3. No in-combination AESI
		Razorbill – indirect habitat loss and barrier effects		See Section 3.13.4. No in-combination AESI
		Puffin – indirect habitat loss		<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the puffin SCI of Saltee Islands SPA are assessed to be negligible (a total of 0.017 individuals per annum [one mortality per 59 years], representing a 0.063% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.14). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCIs of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Gannet – indirect habitat loss		<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the gannet SCI of Saltee Islands SPA are assessed to be negligible (a total of 0.047 individuals per annum [one mortality per 22 years], representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 6.12.7). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Guillemot, razorbill, puffin, gannet – indirect habitat loss	OECC	<p>Potential for ex situ disturbance and displacement within the OECC during the operation and maintenance phase of the project is limited to works associated with routine monitoring activity and maintenance or repair events over the operational lifetime of the project. Project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to seabird SCIs of Saltee Islands SPA during breeding, migration and wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>These SCIs of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, above, which are also within these species' mean maximum (+ 1 SD) foraging range during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Potential for disturbance and displacement within the OECC during the operation and maintenance phase of the project is limited to works associated with routine monitoring activity and maintenance or repair events over the operational lifetime of the project. Project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to seabird SCIs of Saltee Islands SPA during breeding, migration and wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>These SCIs of Saltee Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, above, which are also within this species' mean maximum (+ 1 SD) foraging range during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these SCIs of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.75.</p>
Changes in prey availability	Construction	Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.75.</p>
	O&M	Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Kittiwake, fulmar, lesser black-backed gull, guillemot, razorbill, puffin, gannet	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.75.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.13.5. No in-combination AESI
		Lesser black-backed gull	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.75.</p>
		Gannet	Array site	<p>Project-only collision impacts within the array site to the gannet SCI of Saltee Islands SPA are assessed to be negligible (a total of 0.007 individuals per annum under Design Option A [one mortality per 143 years], representing a 0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM, and a total of 0.006 individuals per annum under Design Option B [one mortality per 167 years], representing a 0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM – see Volume 5 Part 2, Section 4.14).</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is therefore considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Saltee Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.75.</p>

3.13.1 Disturbance and displacement – Construction – Guillemot – Array site

279. **Table 3.77** provides the predicted displacement mortality to the breeding guillemot SCI of Saltee Islands SPA resulting from array site construction phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers based upon the evidence-led operation and maintenance phase rate of 50% displacement, with 1% resultant mortality.
280. As outlined for project-only assessment of construction phase disturbance and displacement impacts within the array site, for construction phase activities displacement rates are taken to be half of those during the operation and maintenance phase (with resultant mortality rates as per during the operation and maintenance phase). For the purpose of in-combination assessment a precautionary approach is adopted that Tier 1 projects are within their operational phase (hence assessed as causing 50% displacement with 1% resultant mortality) and Tier 2 projects (including the CWP Project) are within their construction phase (hence assessed as causing 25% displacement with 1% resultant mortality).

Table 3.77: In-combination guillemot construction phase displacement mortality impacts apportioned to Saltee Islands SPA from evidence-led impact ratios

Impact scenarios Displacement % : Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.806	0.806	3.274	4.901

281. SPA annual mortality of guillemot, taken as the average annual mortality rate of adults (6.1% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (25,851 individuals – 2015), is estimated to be 1,576.911 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.78**.

Table 3.78: In-combination guillemot construction phase displacement mortality impacts apportioned to Saltee Islands SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.05%	0.05%	0.21%	0.31%

282. The Saltee Islands SPA breeding population of guillemot increased from a total of 21,436 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 25,851 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 20.60%.
283. As additional mortality to the guillemot SCI of Saltee Islands SPA resulting from in-combination construction phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (much less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.75**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to result in significant decline to the breeding population abundance.
284. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any

European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.

285. In-combination construction phase disturbance and displacement impacts to the guillemot SCI of Saltee Islands SPA will not adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.75**.

3.13.2 Disturbance and displacement – Construction – Razorbill – Array site

286. **Table 3.79** provides the predicted displacement mortality to the breeding razorbill SCI of Saltee Islands SPA resulting from array site construction phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers based upon the evidence-led operation and maintenance phase rate of 50% displacement, with 1% resultant mortality.

287. As outlined for project-only assessment of construction phase disturbance and displacement impacts within the array site, for construction phase activities displacement rates are taken to be half of those during the operation and maintenance phase (with resultant mortality rates as per during the operation and maintenance phase). For the purpose of in-combination assessment a precautionary approach is adopted that Tier 1 projects are within their operational phase (hence assessed as causing 50% displacement with 1% resultant mortality) and Tier 2 projects (including the CWP Project) are within their construction phase (hence assessed as causing 25% displacement with 1% resultant mortality).

Table 3.79: In-combination razorbill construction phase displacement mortality impacts apportioned to Saltee Islands SPA from evidence-led impact ratios

Impact scenarios	Predicted displacement mortality for in-combination scenarios			
Displacement % : Mortality %	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.194	0.194	0.384	1.467

288. SPA annual mortality of razorbill, taken as the average annual mortality rate of adults (10.5% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (6,519 individuals – 2015), is estimated to be 684.495 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.80**.

Table 3.80: In-combination razorbill construction phase displacement mortality impacts apportioned to Saltee Islands SPA as proportional increases to SPA annual mortality rates

Impact scenarios	Predicted increase to annual SPA mortality rate (%)			
Displacement % : Mortality %	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
25:1 (Tier 2) / 50:1 (Tier 1)	0.03%	0.03%	0.06%	0.21%

289. The Saltee Islands SPA breeding population of razorbill increased from a total of 3,739 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 6,519 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 74.35%.

290. As additional mortality to the razorbill SCI of Saltee Islands SPA resulting from in-combination construction phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (much less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.75**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to result in significant decline to the breeding population abundance.
291. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
292. In-combination construction phase disturbance and displacement impacts to the razorbill SCI of Saltee Islands SPA will not adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.75**.

3.13.3 Disturbance and displacement – Operation and Maintenance – Guillemot – Array site

293. **Table 3.81** provides the predicted displacement mortality to the breeding guillemot SCI of Saltee Islands SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for the evidence-led operational phase displacement rate of 50%, with 1% resultant mortality.

Table 3.81: In-combination guillemot operation and maintenance phase displacement mortality impacts apportioned to Saltee Islands SPA from evidence-led impact ratios

Impact scenarios	Predicted displacement mortality for in-combination scenarios			
Displacement %: Mortality %	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	1.612	1.612	6.547	9.802

294. SPA annual mortality of guillemot, taken as the average annual mortality rate of adults (6.1% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (25,851 individuals – 2015), is estimated to be 1,576.911 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.82**.

Table 3.82: In-combination guillemot operation and maintenance phase displacement mortality impacts apportioned to Saltee Islands SPA as proportional increases to SPA annual mortality rates

Impact scenarios	Predicted increase to annual SPA mortality rate (%)			
Displacement % : Mortality %	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.10%	0.10%	0.42%	0.62%

295. The Saltee Islands SPA breeding population of guillemot increased from a total of 21,436 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998

and 2002), to a total of 25,851 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 20.60%.

296. As additional mortality to the guillemot SCI of Saltee Islands SPA resulting from in-combination operation and maintenance phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (much less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.75**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to result in significant decline to the breeding population abundance.
297. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
298. In-combination operation and maintenance phase disturbance and displacement impacts to the guillemot SCI of Saltee Islands SPA will not adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.75**.

3.13.4 Disturbance and displacement – Operation and Maintenance – Razorbill – Array site

299. **Table 3.83** provides the predicted displacement mortality to the breeding razorbill SCI of Saltee Islands SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for the evidence-led operational phase displacement rate of 50%, with 1% resultant mortality.

Table 3.83: In-combination razorbill operation and maintenance phase displacement mortality impacts apportioned to Saltee Islands SPA from evidence-led impact ratios

Impact scenarios Displacement %: Mortality %	Predicted displacement mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.388	0.388	0.768	2.933

300. SPA annual mortality of razorbill, taken as the average annual mortality rate of adults (10.5% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (6,519 individuals – 2015), is estimated to be 684.495 individuals. Proportional increases to the annual mortality rate resultant from predicted displacement mortalities associated with each in-combination scenario are presented in **Table 3.84**.

Table 3.84: In-combination razorbill operation and maintenance phase displacement mortality impacts apportioned to Saltee Islands SPA as proportional increases to SPA annual mortality rates

Impact scenarios Displacement % : Mortality %	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
50:1 (Tiers 1 and 2)	0.06%	0.06%	0.11%	0.43%

301. The Saltee Islands SPA breeding population of razorbill increased from a total of 3,739 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 6,519 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – an increase of 74.35%.
302. As additional mortality to the razorbill SCI of Saltee Islands SPA resulting from in-combination operation and maintenance phase displacement impacts within the array site and a surrounding 2 km buffer area is estimated to represent only a very small potential increase (much less than 1%, for the evidence-led central value) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.75**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to result in significant decline to the breeding population abundance.
303. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
304. In-combination operation and maintenance phase disturbance and displacement impacts to the razorbill SCI of Saltee Islands SPA will not adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.75**.

3.13.5 Collision – Operation and Maintenance – Kittiwake – Array site

305. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Saltee Islands SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.75**.
306. **Table 3.85** provides the predicted collision mortality apportioned to the kittiwake SCI of Saltee Islands SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.85: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Saltee Islands SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.05	0.27	0.325	1.896
Design B	0.043	0.263	0.318	1.889

307. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (2,076 individuals – 2015), is estimated to be 303.096 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.86**.

Table 3.86: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Saltee Islands SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.02%	0.09%	0.11%	0.63%
Design B	0.01%	0.09%	0.10%	0.62%

308. The Saltee Islands SPA breeding population of kittiwake decreased from a total of 4,250 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 2076 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – a decrease of 51.15%.
309. As additional mortality to the kittiwake SCI of Saltee Islands SPA resulting from in-combination collision impacts with operational WTGs is estimated to represent only a very small potential increase (much less than 1%, for preferred Band Option 1 models) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.75**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to result in meaningful additional decline to the breeding population abundance.
310. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
311. In-combination collision impacts to the kittiwake SCI of Saltee Islands SPA will not adversely affect the Conservation Objective of the SPA to maintain favourable the conservation condition of the SCI through no significant declines in its breeding population abundance **Table 3.75**. Consequently, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.75**.

3.14 Skomer, Skokholm and the Seas off Pembrokeshire SPA (Wales – UK9015051)

312. This SPA is designated in relation to the following features which have been screened in for consideration within the NIS: lesser black-backed gull, puffin, Manx shearwater and European storm petrel. A summary of the in-combination assessment is provided in **Table 3.87**, with the details provided in **Table 3.88**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.87: Summary of adverse effects on site integrity (in-combination) - Skomer, Skokholm and the Seas off Pembrokeshire SPA

Objectives: Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Lesser black-backed gull [A183]					
1. The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term: The breeding population size of lesser black-backed gull should be stable or increasing, aiming for at least 20,300, with a breeding productivity rate and an adult survival rate that allows this number to be maintained/increased. Colonies of this species must not be lost as a result of anthropogenic influence.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	2. The distribution of the population should be being maintained, or where appropriate increasing: The distribution of this species within the site should not be constrained by anthropogenic factors. Reductions in the range of this species can only be acceptable if there is significant risk of detriment, to the FCS of priority features of this SPA.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .		
3. There should be sufficient habitat, of sufficient quality, to support the population in the long term: The breeding and foraging habitat of this species should be stable or increasing in terms of its area, and its quality should remain unaffected by anthropogenic factors.					
4. Factors affecting the population or its habitat should be under appropriate control: There should be no mammalian land predators present in the SPA, and control measures should be in place to ensure that accidental introduction does not take place. Access beyond designated footpaths should be under appropriate control. Factors affecting the species within the site should be under control.					
Puffin [A204]					
1. The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term: The breeding population of puffin should be stable or increasing with an aim of 9500 individuals being achieved.	Direct effects on habitat [1, 3]	N/A	None	No change	No AESI
	Disturbance and displacement [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	2. The distribution of the population should be being maintained, or where appropriate increasing: The distribution of this species within the site should not be constrained by anthropogenic factors. There should be no contraction of the distribution of nesting sites as a result of anthropogenic factors.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .		
3. There should be sufficient habitat, of sufficient quality, to support the population in the long term: The breeding and foraging habitat of this species should be stable or increasing in terms of its area, and its quality should remain unaffected by anthropogenic factors.					
4. Factors affecting the population or its habitat should be under appropriate control: There should be no mammalian land predators present in the SPA, and control measures should be in place to ensure that accidental introduction does not take place. Access beyond designated footpaths should be under appropriate control.					
Manx shearwater [A013]					
1. The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term: The breeding population of Manx shearwater should be stable or increasing with no measured decrease in numbers (based on a population count of 150,968), based on annual study plots.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and displacement [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
2. The distribution of the population should be being maintained, or where appropriate increasing: The distribution of this species within the site should not be constrained by anthropogenic factors, including disturbance of nesting sites by the public and activities leading to possible loss of suitable nesting sites.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
3. There should be sufficient habitat, of sufficient quality, to support the population in the long term: The breeding and foraging habitat of this species should be stable or increasing in terms of its area, and its quality should remain unaffected by anthropogenic factors.					
4. Factors affecting the population or its habitat should be under appropriate control: Rafting birds should remain unaffected by boat use and other anthropogenic factors; appropriate codes of conduct must be followed by all visitors and craft surrounding the islands. Factors affecting the species within the site should be under control.					

Objectives: Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
European storm petrel [A014]					
1. The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term: The breeding population of European storm petrel should be stable or increasing. The aim, across the 2 islands is for at least 3500 pairs, with this number to be stable or increasing. 2. The distribution of the population should be being maintained, or where appropriate increasing: The distribution of this species within the site should not be constrained by anthropogenic factors, including disturbance by the public and activities leading to possible loss of suitable nesting sites. 3. There should be sufficient habitat, of sufficient quality, to support the population in the long term: The foraging habitat of this species should be stable or increasing in terms of its area, and its quality should remain unaffected by anthropogenic factors. There should be no contraction of the distribution of nesting sites as a result of anthropogenic factors. 4. Factors affecting the population or its habitat should be under appropriate control: Breeding success of this species should remain unaffected by negative human influence. Factors affecting the species within the site should be under control.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.88: In-combination assessment of adverse effects on site integrity for Skomer, Skokholm and the Seas off Pembrokeshire SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.87.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
		Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.87.</p>
	O&M	Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.87.</p>
		Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.87.</p>
Disturbance and displacement	Construction	Puffin – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the puffin feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA are assessed to be negligible (a total of 0.127 individuals per annum [one mortality per 7.9 years], representing a 0.003% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.12). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.87.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
		Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA are assessed to be negligible (a total of 2.922 individuals per annum, representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.12). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.87.</p>
		Puffin – indirect habitat loss	OECC	<p>Ex situ project-only construction phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to seabird SCIs of Skomer, Skokholm and the Seas off Pembrokeshire SPA during breeding, migration and wintering periods (Volume 5 Part 2, Section 4.12). With puffin considered to be similarly sensitive to other auks in terms of escape distance around vessels, a disturbance area of 0.490 km² for razorbill (calculated from published disturbance response range – Fließbach et al., 2019; See Volume 5 Part 2, Section 4.12) is considered to be precautionarily representative, and characterises an extremely small proportion of the overall OECC area available to this species within its theoretical foraging range of breeding sites within Skomer, Skokholm and the Seas off Pembrokeshire SPA. The puffin feature is therefore assessed to experience only negligible disturbance and displacement impacts from construction phase vessel activity within the OECC.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although the puffin SCI of Skomer, Skokholm and the Seas off Pembrokeshire SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.87.</p>
	O&M	Puffin – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the puffin feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA are assessed to be negligible (a total of 0.255 individuals per annum [one mortality per 3.9 years], representing a 0.006% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.12). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to feature Conservation Objectives stated in Table 3.87.</p>
		Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA are assessed to be negligible (a total of 5.844 individuals per annum, representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.12). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to feature Conservation Objectives stated in Table 3.87.</p>
		Puffin – indirect habitat loss	OECC	<p>Potential for disturbance and displacement within the OECC on an ex situ basis during the operational phase of the project is limited to works associated with routine monitoring activity and maintenance or repair events over the operational lifetime of the project. Project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to the puffin SCI of Skomer, Skokholm and the Seas off Pembrokeshire SPA during breeding, migration and wintering periods (Volume 5 Part 2, Section 4.12).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, above, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Potential for disturbance and displacement within the OECC during the operation and maintenance phase of the project is limited to works associated with routine monitoring activity and maintenance or repair events over the operational lifetime of the project. Project-only operation and maintenance phase impacts arising from disturbance and displacement within the OECC are considered to represent a negligible proportion of habitats available to seabird SCIs of Skomer, Skokholm and the Seas off Pembrokeshire SPA during breeding, migration and wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>This SCI of the SPA may also experience disturbance and displacement from those other projects listed Table 3.1, above, which are also within this species' mean maximum (+ 1 SD) foraging range during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to these</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>SCIs of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts from operation and maintenance phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.87.</p>
Changes in prey availability	Construction	Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.87.</p>
		Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.87.</p>
	O&M	Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.87.</p>
		Lesser black-backed gull, puffin, Manx shearwater, European storm petrel	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.87.</p>
Collision	O&M	Lesser black-backed gull	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the</p>



Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Skomer, Skokholm and the Seas off Pembrokeshire SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.87.</p>

3.15 Grassholm SPA (Wales – UK9014041)

313. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: gannet. A summary of the in-combination assessment is provided in **Table 3.89**, with the details provided in **Table 3.90**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.89: Summary of adverse effects on site integrity (in-combination) – Grassholm SPA

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Gannet [A016]						
To maintain the feature in a favourable conservation status	1. Breeding population – Will not fall below 30,000 pairs in three consecutive years. 2. Breeding population – Will not drop by more than 25% of the previous year's figures in any one year. 3. Breeding population – There will be no decline in this population significantly greater than any decline in the North Atlantic population as a whole.	Direct effects on habitat [1,2,3]	N/A	None	No change	No AESI
		Disturbance and displacement [1,2,3]		None	No change	No AESI
		Changes in prey availability [1,2,3]		None	No change	No AESI
		Collision [1,2,3]		None	No change	No AESI
		Introduction or spread of INNS [1,2,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.90: In-combination assessment of adverse effects on site integrity for Grassholm SPA

Impact	Phase	Feature(s)	Area	In-combination Assessment
Direct effects on habitat	Construction	Gannet	Array site	<p>Project-only construction phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.89.</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
		Gannet	OECC	<p>Project-only construction phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.89.</p>
	O&M	Gannet	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.89 .
		Gannet	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.89.</p>
Disturbance and displacement	Construction	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the gannet feature of Grassholm SPA are assessed to be negligible (a total of 0.158 individuals per annum [one mortality per 6.3 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.13). It is therefore considered that the negligible project-only contribution to in-combination ex situ disturbance and displacement impacts to this feature of Grassholm SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Grassholm SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Grassholm SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.89.</p>
	O&M	Gannet – indirect habitat loss and barrier effects	Array site	Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the gannet feature of Grassholm SPA are assessed to be negligible (a total of 0.316 individuals per annum [one mortality per 3.2 years], representing a 0.004% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.13). It is therefore considered that the negligible project-only contribution to in-combination ex situ disturbance and

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>displacement impacts to this feature of Grassholm SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Grassholm SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Grassholm SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to feature Conservation Objectives stated in Table 3.89.</p>
Changes in prey availability	Construction	Gannet	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.89.</p>
		Gannet	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.89.</p>
	O&M	Gannet	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.89.</p>
		Gannet	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>



Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.89.</p>
Collision	O&M	Gannet	Array site	<p>Project-only collision impacts within the array site to the gannet SCI of Grassholm SPA are assessed to be negligible (a total of 0.048 individuals per annum under Design Option A [one mortality per 21 years], representing a 0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM, and a total of 0.041 individuals per annum under Design Option B [one mortality per 24 years], representing a 0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM – see Volume 5 Part 2, Section 4.13).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in-combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is therefore considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Grassholm SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.89.</p>

3.16 Copeland Islands SPA (Northern Ireland – UK9020291)

314. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.91**, with the details provided in **Table 3.92**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.91: Summary of adverse effects on site integrity (in-combination) - Copeland Islands SPA

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Manx shearwater [A013]						
To maintain the favourable conservation condition of the feature in the SPA	1. Breeding population – No significant decrease in population against national trends.	Direct effects on habitat [1]	N/A	None	No change	No AESI
		Disturbance and displacement [1]		None	No change	No AESI
		Changes in prey availability [1]		None	No change	No AESI
		Introduction or spread of INNS [1]	See high-level assessment in Section 3.1 .			No AESI

Table 3.92: In-combination assessment of adverse effects on site integrity for Copeland Islands SPA

Impact	Phase	Feature(s)	Area	In-combination Assessment
Direct effects on habitat	Construction	Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.91.</p>
		Manx shearwater	OECC	Project-only construction phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5 , the proposed CWP Project will not

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.91.</p>
	O&M	Manx shearwater	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.91 .
		Manx shearwater	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the OECC represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.91.</p>
Disturbance and displacement	Construction	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater feature of Copeland Islands SPA are assessed to be negligible (a total of 0.030 individuals per annum [one mortality per 33 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.14). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Copeland Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Copeland Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Copeland Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.91.</p>
	O&M	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater feature of Copeland Islands SPA are assessed to be negligible (a total of 0.061 individuals per annum [one mortality per 16 years], representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.14). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Copeland Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Copeland Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Copeland Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to feature Conservation Objectives stated in Table 3.91.</p>
Changes in prey availability	Construction	Manx shearwater	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.91.</p>
		Manx shearwater	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.91.</p>
	O&M	Manx shearwater	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic ex situ habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.91.</p>
		Manx shearwater	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to the seabird SCI.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.91.</p>

3.17 Ribble and Alt Estuaries SPA (England UK9005103)

315. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: lesser black-backed gull. A summary of the in-combination assessment is provided in **Table 3.93**, with the details provided in **Table 3.94**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.93: Summary of adverse effects on site integrity (in-combination) – Ribble and Alt Estuaries SPA

Objective	Attributes	Targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Lesser black-backed gull [A183]							
Subject to natural change, maintain or restore the lesser black-backed gull population, distribution and its supporting habitats in favourable condition.	1. Breeding population: abundance	1. Maintain the size of the breeding population at a level which is above 8,097 pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	Direct effects on habitat [1]	N/A	None	No change	No AESI
	2. Connectivity with supporting habitats	2. Maintain safe passage of birds moving between roosting and feeding areas.	Changes in prey availability [1,5,9]		None	No change	No AESI
	3. Disturbance caused by human activity	3. Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.	Collision [1,5]		None	No change	No AESI
	4. Predation - all habitats	4. Restrict predation and disturbance caused by native and non-native predators					
	5. Productivity	5. [Maintain or recover] productivity so that breeding success is maximised within the constraints of the site.					
	6. Supporting habitat: air quality	6. Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this Feature of the site on the Air Pollution Information System.					
	7. Supporting habitat: conservation measures	7. Maintain the structure, function and supporting processes associated with the Feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.					
	8. Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season	8. Maintain the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the Feature for all necessary stages of its breeding cycle (courtship, nesting, feeding) at: 45 ha (intertidal rock); 11,678 ha (intertidal sand and muddy sand); 672 ha (intertidal mud); 78 ha (intertidal mixed sediments); 2,292 ha (coastal saltmarshes and saline reedbeds); 191 ha (freshwater and coastal grazing marsh).					
	9. Supporting habitat: food availability (bird)	9. Maintain the distribution, abundance and availability of key food and prey items (e.g., voles, small seabirds, waders, sandeel, sprat, cod, herring, roach, rudd, beetles, flies, earthworm, shellfish, as appropriate) at preferred sizes.					
	10. Supporting habitat: vegetation characteristics for nesting	10. Maintain the extent and distribution of predominantly medium to tall [i.e., 20–60 cm] grassland swards.					
	11. Supporting habitat: water quality - contaminants	11. Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex V of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					

Objective	Attributes	Targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	12. Supporting habitat: water quality - dissolved oxygen	12. Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg/l (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	13. Supporting habitat: water quality – nutrients	13. Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and Features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	14. Supporting habitat: water quality - turbidity	14. Maintain natural levels of turbidity (e.g., concentrations of suspended sediment, plankton and other material) across the habitat.	Introduction or spread of INNS [1,5,9]	See high-level assessment in Section 3.1 .			No AESI

Table 3.94: In-combination assessment of adverse effects on site integrity for Ribble and Alt Estuaries SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Lesser black-backed gull	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.93.</p>
		Lesser black-backed gull	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.93.</p>
	O&M	Lesser black-backed gull	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.93.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
		Lesser black-backed gull	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.93.</p>
Changes in prey availability	Construction	Lesser black-backed gull	Array site & OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the array site and OECC on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from array site and OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area and OECC with regard to SCI Conservation Objectives stated in Table 3.93.</p>
	O&M	Lesser black-backed gull	Array site &	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
			OECC	<p>the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.93.</p>
Collision	O&M	Lesser black-backed gull	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Ribble and Alt Estuaries SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.93.</p>

3.18 Helvick Head to Ballyquin SPA (IE004192)

316. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: kittiwake. A summary of the in-combination assessment is provided in **Table 3.95**, with the details provided in **Table 3.96**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.95: Summary of adverse effects on site integrity (in-combination) - Helvick Head to Ballyquin SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Kittiwake [A188]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Changes in prey availability [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.96: In-combination assessment of adverse effects on site integrity for Helvick Head to Ballyquin SPA

Impact	Phase	SCI(s)	Area	In-combination Assessment
Direct effects on habitat	Construction	Kittiwake	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.95.</p>
		Kittiwake	OECC	Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no

Impact	Phase	SCI(s)	Area	In-combination Assessment
				<p>adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.95.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	SCI(s)	Area	In-combination Assessment
				no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.95 .
		Kittiwake	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.95.</p>
Changes in prey availability	Construction	Kittiwake	Array site & OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the array site and OECC on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from array site and OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area and OECC with regard to SCI Conservation Objectives stated in Table 3.95.</p>

Impact	Phase	SCI(s)	Area	In-combination Assessment
	O&M	Kittiwake	Array site & OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.95.</p>
Collision	O&M	Kittiwake	Array site	<p>Project-only collision impacts to the kittiwake SCI of Helvick Head to Ballyquin SPA are assessed to be negligible (a total of 0.003 individuals per annum under Design Option A [one mortality per 333.3 years], representing a 0.014% increase to SPA mortality rates under the preferred Band Option 1 CRM, and a total of 0.002 individuals per annum under Representative Scenario Option B [one mortality per 500 years], representing a 0.013% increase to SPA mortality rates under the preferred Band Option 1 CRM – see Volume 5 Part 2, Section 4.16).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is therefore considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Helvick Head to Ballyquin SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.95.</p>

3.19 Morceambe Bay and Duddon Estuary SPA (England UK9005103)

317. This SPA is designated in relation to the following features which have been screened in for consideration within the NIS: lesser black-backed gull and Mediterranean gull. A summary of the in-combination assessment is provided in **Table 3.97**, with the details provided in **Table 3.98**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.97: Summary of adverse effects on site integrity (in-combination) – Morecambe Bay and Duddon Estuary SPA

Objective	Attributes	Targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Lesser black-backed gull [A183] (breeding)							
Subject to natural change, maintain or restore the lesser black-backed gull population, distribution and its supporting habitats in favourable condition.	1. Breeding population: abundance	1. Restore the size of the breeding population to a level which is above 10,000 pairs whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	Direct effects on habitat [1]	N/A	None	No change	No AESI
	2. Connectivity with supporting habitats	2. Maintain safe passage of birds moving between roosting and feeding areas.	Changes in prey availability [1,5,9]		None	No change	No AESI
	3. Disturbance caused by human activity	3. Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.	Collision [1,5]		None	No change	No AESI
	4. Predation - all habitats	4. Restrict predation and disturbance caused by native and non-native predators					
	5. Productivity	5. [Maintain or recover] productivity so that breeding success is maximised within the constraints of the site.					
	6. Supporting habitat: air quality	6. Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this Feature of the site on the Air Pollution Information System.					
	7. Supporting habitat: conservation measures	7. Maintain the structure, function and supporting processes associated with the Feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.					
	8. Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season	8. Restore the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the Feature for all necessary stages of its breeding cycle (courtship, nesting, feeding). Freshwater and coastal grazing marsh (unknown), Water column (unknown), Large shallow inlets and bays as well as Mudflats and sandflats not covered by seawater at low tide (31,000 ha) including; Intertidal coarse sediment, Intertidal stony reef, sand and muddy sand, Intertidal seagrass beds (41 ha), Intertidal rock, Intertidal biogenic reef: mussel beds, Intertidal mud, Intertidal mixed sediments, Atlantic salt meadows (Glaucopuccinellietalia maritima) and Salicornia and other annuals colonising mud and sand under the umbrella of Saltmarsh (3744 ha) and Coastal lagoons (195 ha).					
	9. Supporting habitat: food availability (bird)	9. Maintain the distribution, abundance and availability of key food and prey items (e.g., voles, small seabirds, waders, sandeel, sprat, cod, herring, roach, rudd, beetles, flies, earthworm, shellfish, as appropriate) at preferred sizes.					

Objective	Attributes	Targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	10. Supporting habitat: vegetation characteristics for nesting	10. Maintain the extent and distribution of predominantly medium to tall [i.e., 20–60 cm] grassland swards.					
	11. Supporting habitat: water quality - contaminants	11. Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex V of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	12. Supporting habitat: water quality - dissolved oxygen	12. Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥ 5.7 mg/l (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	13. Supporting habitat: water quality - nutrients	13. Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and Features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	14. Supporting habitat: water quality - turbidity	14. Maintain natural levels of turbidity (e.g., concentrations of suspended sediment, plankton and other material) across the habitat.	Introduction or spread of INNS [1,5,9]	See high-level assessment in Section 3.1.			No AESI

Table 3.98: In-combination assessment of adverse effects on site integrity for Morecambe Bay and Duddon Estuary SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Lesser black-backed gull (breeding)	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding period. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (non-breeding), Mediterranean gull	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during migration and/or wintering period. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (breeding)	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during the breeding period. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (non-breeding), Mediterranean gull	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.97.</p>
	O&M	Lesser black-backed gull (breeding)	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (non-breeding), Mediterranean gull	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.97</p>
		Lesser black-backed gull (breeding)	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (non-breeding), Mediterranean gull	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of ex situ direct effects on habitat within the OECC site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.97.</p>
Changes in prey availability	Construction	Lesser black-backed gull (breeding)	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array on an ex situ basis site are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from array site construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area with regard to SCI Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (non-breeding), Mediterranean gull	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from array site construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area with regard to SCI Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (breeding)	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within OECC with regard to SCI Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (non-breeding), Mediterranean gull	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from and OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.97.</p>
	O&M	Lesser black-backed gull (breeding)	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.97 .
		Lesser black-backed gull (non-breeding), Mediterranean gull	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.97.</p>
		Lesser black-backed gull (breeding)	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.97 .
		Lesser black-backed gull (non-breeding), Mediterranean gull	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.97.</p>
Collision	O&M	Lesser black-backed gull, Mediterranean gull	Array site	<p>Project-only collision impacts to these features are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Morecambe Bay and Duddon Estuary SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to feature Conservation Objectives stated in Table 3.97.</p>

3.20 Ailsa Craig SPA (Scotland – UK9003091)

318. This SPA is designated in relation to the following features which have been screened in for consideration within the NIS: kittiwake, lesser black-backed gull, gannet. A summary of the in-combination assessment is provided in **Table 3.99**, with the details provided in **Table 3.100**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.99: Summary of adverse effects on site integrity (in-combination) - Ailsa Craig SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained. To ensure for the qualifying species that the following are maintained in the long term: 1. Population of the species as a viable component of the site 2. Distribution of the species within site 3. Distribution and extent of habitats supporting the species 4. Structure, function and supporting processes of habitats supporting the species 5. No significant disturbance of the species	Kittiwake [A188]				
	Direct effects on habitat [1,3,4]	Volume 5 Part 2, Section 4.18	None	No change	No AESI
	Changes in prey availability [1,3,4]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,4]	See high-level assessment in Section 3.1.			No AESI
	Lesser black-backed gull [A183]				
	Direct effects on habitat [1,3,4]	N/A	None	No change	No AESI
	Changes in prey availability [1,3,4]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,4]	See high-level assessment in Section 3.1.			No AESI
	Gannet [A016]				
	Direct effects on habitat [1,3,4]	N/A	None	No change	No AESI
	Disturbance and displacement [1,3, 5]		None	No change	No AESI
	Changes in prey availability [1,3,4]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,4]	See high-level assessment in Section 3.1.			No AESI

Table 3.100: In-combination assessment of adverse effects on site integrity for Ailsa Craig SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake, lesser black-backed gull, gannet	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.99.</p>
		Kittiwake, lesser black-backed gull, gannet	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.99.</p>
	O&M	Kittiwake, lesser black-backed gull, gannet	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.99.</p>
		Kittiwake, lesser black-backed gull, gannet	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.99.</p>
Disturbance and displacement	Construction	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the gannet feature of Ailsa Craig SPA are assessed to be negligible (a total of 0.089 individuals per annum [one mortality per 11 years], representing a 0.001% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.18). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Ailsa Craig SPA on an ex situ basis cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Ailsa Craig SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Ailsa Craig SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.99.</p>
	O&M	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the gannet feature of Ailsa Craig SPA are assessed to be negligible (a total of 0.179 individuals per annum [one mortality per 5.6 years], representing a 0.003% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.18). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>impacts to this feature of Ailsa Craig SPA on an ex situ basis cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Ailsa Craig SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Ailsa Craig SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.99.</p>
Changes in prey availability	Construction	Kittiwake, lesser black-backed gull, gannet	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from array site construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array area with regard to SCI Conservation Objectives stated in Table 3.99.</p>
		Kittiwake, lesser black-backed gull, gannet	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion of prey availability for these SCIs. Although some SCI prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from OECC construction activities (noise and SSC) are not considered to translate into population-level consequences to the SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of this SPA.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of this SPA.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.99.</p>
	O&M	Kittiwake, lesser black-backed gull, gannet	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.99.</p>
		Kittiwake, lesser black-backed gull, gannet	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.99.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.20.1. No in-combination AESI
		Lesser black-backed gull	Array site	<p>Project-only collision impacts to this SCI are assessed to be negligible on the basis that flight activity recorded within the array site was extremely low throughout the baseline survey period. The frequency of collision events will therefore be extremely rare and will not adversely affect SCI populations. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the absence of collision mortality from Dublin Array and North Irish Sea Array OWFs, it is considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Ailsa Craig SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to feature Conservation Objectives stated in Table 3.99.</p>
		Gannet	Array site	<p>Project-only collision impacts to the gannet SCI of Ailsa Craig SPA are assessed to be negligible (a total of 0.025 individuals per annum under Design Option A [one mortality per 40 years], representing a <0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM, and a total of 0.021 individuals per annum under Design Option B [one mortality per 48 years], representing a <0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM – see Volume 5 Part 2, Section 4.18).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is therefore considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Ailsa Craig SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.99.</p>

3.20.1 Collision – Operation and Maintenance – Kittiwake – Array site

319. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Ailsa Craig SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA feature as per **Table 3.99**.

320. **Table 3.101** provides the predicted collision mortality apportioned to the kittiwake feature of Ailsa Craig SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.101: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Ailsa Craig SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.018	0.568	0.603	0.663
Design B	0.016	0.566	0.601	0.661

321. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (980 individuals – 2021), is estimated to be 143.080 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.102**.

Table 3.102: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Ailsa Craig SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.01%	0.40%	0.42%	0.46%
Design B	0.01%	0.40%	0.42%	0.46%

322. The Ailsa Craig SPA breeding population of kittiwake decreased from a total of 3,350 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 980 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2021) – a decrease of 70.75%.

323. As additional mortality to the kittiwake feature of Ailsa Craig SPA resulting from in-combination collision impacts with operational WTGs is estimated to represent only a very small potential increase (much less than 1%, for preferred Band Option 1 models) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this feature as stated in **Table 3.99**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the feature in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of the site.

324. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
325. In-combination collision impacts to the kittiwake feature of Ailsa Craig SPA will not adversely affect the Conservation Objective of the SPA to ensure for the qualifying species that the population of the species as a viable component of the site is maintained in the long term and there is assessed to be **no in-combination AESI** to this feature with regard to the Conservation Objectives stated in **Table 3.99**.

3.21 Rathlin Island SPA (Northern Ireland – UK9020011)

326. This SPA is designated in relation to the following features which have been screened in for consideration within the NIS: Kittiwake. A summary of the in-combination assessment is provided in **Table 3.103**, with the details provided in **Table 3.104**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.103: Summary of adverse effects on site integrity (in-combination) - Rathlin Island SPA

Objective:	Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Kittiwake [A188]						
To maintain the favourable conservation condition of the Feature in the SPA	1. Breeding population – Maintain or enhance. 2. Productivity – Fledging success sufficient to maintain or enhance population. 3. Supporting habitats – Maintain or enhance. 4. Disturbance – Ensure no significant disturbance to qualifying feature. 5. Distribution of the species within site – Maintain in the long-term.	Direct effects on habitat [1,2,3]	Volume 5 Part 2, Section 4.19	None	No change	No AESI
		Changes in prey availability [1,2,3]		None	No change	No AESI
		Collision [1,2]		None	No change	No AESI
		Introduction or spread of INNS [1,2,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.104: In-combination assessment of adverse effects on site integrity for Rathlin Island SPA

Impact	Phase	Feature(s)	Area	In-combination Assessment
Direct effects on habitat	Construction	Kittiwake	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.103.</p>
		Kittiwake	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.103.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.103.</p>
		Kittiwake	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.103 ex situ.</p>
Changes in prey availability	Construction	Kittiwake	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.103.</p>
		Kittiwake	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.103.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.103.</p>
		Kittiwake	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>



Impact	Phase	Feature(s)	Area	In-combination Assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.103.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.21.1 No in-combination AESI .

3.21.1 Collision – Operation and Maintenance – Kittiwake – Array site

327. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Rathlin Island SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA feature as per **Table 3.103**.
328. **Table 3.105** provides the predicted collision mortality apportioned to the kittiwake feature of Rathlin Island SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.105: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Rathlin Island SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.506	11.186	11.186	13.096
Design B	0.44	11.12	11.12	13.03

329. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (27,412 individuals – 2021), is estimated to be 4,002.152 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.106**.

Table 3.106: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Rathlin Island SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.01%	0.28%	0.28%	0.33%
Design B	0.01%	0.28%	0.28%	0.33%

330. The Rathlin Island SPA breeding population of kittiwake increased from a total of 19,834 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 27,412 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2021) – an increase of 38.21%.
331. As additional mortality to the kittiwake feature of Rathlin Island SPA resulting from in-combination collision impacts with operational WTGs is estimated to represent only a very small potential increase (much less than 1%, for preferred Band Option 1 models) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this feature as stated in **Table 3.103**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the feature in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats.

332. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
333. In-combination construction phase disturbance and displacement impacts to the kittiwake feature of Rathlin Island SPA will not adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the feature and there is assessed to be **no in-combination AESI** to this feature with regard to the Conservation Objectives stated in **Table 3.103**.

3.22 Old Head of Kinsale SPA (IE004021)

334. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: Kittiwake. A summary of the in-combination assessment is provided in **Table 3.107**, with the details provided in **Table 3.108**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.107: Summary of adverse effects on site integrity (in-combination) - Old Head of Kinsale SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Kittiwake [A188] Direct effects on habitat [1,3] Changes in prey availability [1,3] Collision [1] Introduction or spread of INNS [1,3]	Volume 5 Part 2, Section 4.20 See high-level assessment in Section 3.1.	None None None	No change No change No change	No AESI No AESI No AESI No AESI

Table 3.108: In-combination assessment of adverse effects on site integrity for Old Head of Kinsale SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.107.</p>
		Kittiwake	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.107.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.107.</p>
		Kittiwake	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.107 ex situ.</p>
Changes in prey availability	Construction	Kittiwake	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.107.</p>
		Kittiwake	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.107.</p>
	O&M	Kittiwake	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.107.</p>
		Kittiwake	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.107.</p>
Collision	O&M	Kittiwake	Array site	See Section 3.22.1 No in-combination AESI .

3.22.1 Collision – Operation and Maintenance – Kittiwake – Array site

335. During the operation and maintenance phase of the CWP Project the presence of operational WTGs within the array site may result in the mortality of kittiwake from Old Head of Kinsale SPA through the collision of individuals with turbine blades. Collision mortality has the potential to impact on the Conservation Objective attribute and targets for this SPA SCI as per **Table 3.107**.
336. **Table 3.109** provides the predicted collision mortality apportioned to the kittiwake SCI of Old Head of Kinsale SPA resulting from array site operation and maintenance phase activities at CWP Project alone and CWP Project in-combination with projects from other tiers for turbine configuration Designs A and B.

Table 3.109: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Old Head of Kinsale SPA

Turbine configuration	Predicted annual collision mortality for in-combination scenarios			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.026	0.026	0.068	0.068
Design B	0.022	0.022	0.064	0.064

337. SPA annual mortality of kittiwake, taken as the average annual mortality rate of adults (14.6% - Horswill and Robinson, 2015) multiplied by the SPA breeding population (1,422 individuals – 2015), is estimated to be 207.612 individuals. Proportional increases to the annual mortality rate resultant from predicted collision mortalities associated with each design option and in-combination scenario are presented in **Table 3.110**.

Table 3.110: In-combination kittiwake operation and maintenance phase collision mortality for Design options A and B for impacts apportioned to Old Head of Kinsale SPA as proportional increases to SPA annual mortality rates

Turbine configuration	Predicted increase to annual SPA mortality rate (%)			
	CWP	CWP + 1	CWP + 1 + other 2a	CWP + 1 + other 2a + 2b
Design A	0.01%	0.01%	0.03%	0.03%
Design B	0.01%	0.01%	0.03%	0.03%

338. The Old Head of Kinsale SPA breeding population of kittiwake decreased from a total of 2,376 individuals during surveys for the third Irish and UK seabird census (Seabird 2000 – with surveys between 1998 and 2002), to a total of 1,422 individuals for the fourth Irish and UK seabird census (Seabirds Count, Burnell et al., 2023 – with surveys in 2015) – a decrease of 40.15%.
339. As additional mortality to the kittiwake SCI of Old Head of Kinsale SPA resulting from in-combination collision impacts with operational WTGs is estimated to represent only a very small potential increase (much less than 1%, for preferred Band Option 1 models) to SPA baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in **Table 3.107**. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats.

340. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
341. Thereby, in-combination construction phase disturbance and displacement impacts to the kittiwake SCI of Old Head of Kinsale SPA will not adversely affect the Conservation Objective of the SPA to maintain the favourable conservation condition of the SCI and there is assessed to be **no in-combination AESI** to this SCI with regard to the Conservation Objectives stated in **Table 3.107**.

3.23 Isles of Scilly SPA (England – UK9020288)

342. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: European storm petrel. A summary of the in-combination assessment is provided in **Table 3.111**, with the details provided in **Table 3.112**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.111: Summary of adverse effects on site integrity (in-combination) - Isles of Scilly SPA

Objective	Attributes	Targets	Predicted effect(s)	Link to assessment	Mitigation	Residual effect	Conclusion
European storm petrel [A014]							
Subject to natural change, maintain or restore the European storm petrel population, distribution and its supporting habitats in favourable condition.	1. Breeding population: abundance	1. Maintain the size of the breeding population at a level which is above 1,458 (Apparently Occupied Sites, equivalent to pairs), whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	Direct effects on habitat [1]	N/A	None	No change	No AESI
	2. Connectivity with supporting habitats	2. Maintain safe passage of birds moving between roosting and feeding areas.	Changes in prey availability [1,5,9]		None	No change	No AESI
	3. Disturbance caused by human activity	3. Restrict the frequency, duration and / or intensity of disturbance affecting roosting, nesting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed.					
	4. Predation - all habitats	4. Restrict predation and disturbance caused by native and non-native predators					
	5. Productivity	5. [Maintain or recover] productivity so that breeding success is maximised within the constraints of the site.					
	6. Supporting habitat: air quality	6. Maintain concentrations and deposition of air pollutants at below the site-relevant Critical Load or Level values given for this Feature of the site on the Air Pollution Information System.					
	7. Supporting habitat: conservation measures	7. Maintain the structure, function and supporting processes associated with the Feature and its supporting habitat through management or other measures (whether within and/or outside the site boundary as appropriate) and ensure these measures are not being undermined or compromised.					
	8. Supporting habitat: extent, distribution and availability of supporting habitat for the breeding season	8. Maintain the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the Feature for all necessary stages of its breeding cycle (courtship, nesting, feeding).					
	9. Supporting habitat: food availability (bird)	9. Maintain the distribution, abundance and availability of key food and prey items (e.g., herring, sprat, gobies, jellyfish, ichthyoplankton, microzooplankton) at preferred sizes					
	10. Supporting habitat: water quality - contaminants	10. Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex V of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	11. Supporting habitat: water quality - dissolved oxygen	11. Maintain the dissolved oxygen (DO) concentration at levels equating to High Ecological Status (specifically ≥5.7 mg/l (at 35 salinity) for 95 % of year) avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	12. Supporting habitat: water quality - nutrients	12. Maintain water quality at mean winter dissolved inorganic nitrogen levels where biological indicators of eutrophication (opportunistic macroalgal and phytoplankton blooms) do not affect the integrity of the site and Features, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data.					
	13. Supporting habitat: water quality - turbidity	13. Maintain natural levels of turbidity (e.g., concentrations of suspended sediment, plankton and other material) across the habitat.					
	14. Predation - burrow-nesting seabirds	14. Eradicate the occurrence of introduced predators, e.g., rats	Introduction or spread of INNS [1,5,9]]		See high-level assessment in Section 3.1.		No AESI

Table 3.112: In-combination assessment of adverse effects on site integrity for Isles of Scilly SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	European storm petrel	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.111.</p>
		European storm petrel	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.111 .
	O&M	European storm petrel	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.111.</p>
		European storm petrel	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.111 ex situ.
Changes in prey availability	Construction	European storm petrel	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.111.</p>
		European storm petrel	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.111.</p>
	O&M	European storm petrel	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.111.</p>
		European storm petrel	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.111.</p>

3.24 Horn Head to Fanad Head SPA (IE004194)

343. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.113**, with the details provided in **Table 3.114**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.113: Summary of adverse effects on site integrity (in-combination) - Horn Head to Fanad Head SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.114: In-combination assessment of adverse effects on site integrity for Horn Head to Fanad Head SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.113.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.113.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.113.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.113 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.113.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.113.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.113.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.113.</p>

3.25 Beara Peninsula SPA (IE004155)

344. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.115**, with the details provided in **Table 3.116**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.115: Summary of adverse effects on site integrity (in-combination) - Beara Peninsula SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Fulmar [A009]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Changes in prey availability [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.116: In-combination assessment of adverse effects on site integrity for Beara Peninsula SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.115.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.115.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.115.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.115 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.115.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.115.</p>
	O&M	Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the array site on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.115.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability within the OECC on an ex situ basis are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.115.</p>

3.26 Tory Island SPA (IE004073)

345. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.117**, with the details provided in **Table 3.118**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.117: Summary of adverse effects on site integrity (in-combination) - Tory Island SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Fulmar [A009]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,2,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Changes in prey availability [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.118: In-combination assessment of adverse effects on site integrity for Tory Island SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts on an ex situ basis within the array represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.117.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.117.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts on an ex situ basis within the array site represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.117.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.117.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.117.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to ex situ seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.117.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.117.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.117.</p>

3.27 The Bull and the Cow Rocks SPA (IE004066)

346. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: gannet. A summary of the in-combination assessment is provided in **Table 3.119**, with the details provided in **Table 3.120**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.119: Summary of adverse effects on site integrity (in-combination) - The Bull and the Cow Rocks SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Gannet [A016]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Disturbance and Displacement (including barrier effects) [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.120: In-combination assessment of adverse effects on site integrity for The Bull and Cow Rocks SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Gannet	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.119.</p>
		Gannet	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.119.</p>
		Gannet	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.119.</p>
		Gannet	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.119 ex situ.</p>
Disturbance and displacement	Construction	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the gannet SCI of The Bull and the Cow Rocks SPA are assessed to be negligible (a total of 0.013 individuals per annum [one mortality per 77 years], representing a 0.001% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.25). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of The Bull and the Cow Rocks SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of The Bull and the Cow Rocks SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of The Bull and the Cow Rocks SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.119.</p>
	O&M	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the gannet SCI of The Bull and the Cow Rocks SPA are assessed to be negligible (a total of 0.027 individuals per annum [one mortality per 37 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.25). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of The Bull and the Cow Rocks SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of The Bull and the Cow Rocks SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>displacement impacts to this SCI of The Bull and the Cow Rocks SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.119.</p>
Changes in prey availability	Construction	Gannet	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.119.</p>
		Gannet	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.119.</p>
	O&M	Gannet	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.119.</p>
		Gannet	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.119.</p>
Collision	O&M	Gannet	Array site	<p>Project-only collision impacts to the gannet SCI of The Bull and the Cow Rocks SPA are assessed to be negligible (a total of 0.003 individuals per annum under both Design Options A and B [one mortality per 333 years], representing a <0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM – see Volume 5 Part 2, Section 4.25).</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is therefore considered that the negligible project-only contribution to in-combination collision impacts to this SCI of The Bull and the Cow Rocks SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.119.</p>

3.28 West Donegal Coast SPA (IE004150)

347. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.121**, with the details provided in **Table 3.122**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.121: Summary of adverse effects on site integrity (in-combination) - West Donegal Coast SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Fulmar [A009]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Changes in prey availability [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.122: In-combination assessment of adverse effects on site integrity for West Donegal Coast SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site. The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.121.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.121.</p>
	O&M	Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.121.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF,</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.121 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.121.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.121.</p>
	O&M	Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up to 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.121.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.121.</p>

3.29 Deenish Islands and Scariff Island SPA (IE004175)

348. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: fulmar and Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.123**, with the details provided in **Table 3.124**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.123: Summary of adverse effects on site integrity (in-combination) - Deenish Islands and Scariff Island SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Manx shearwater [A013]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and Displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.124: In-combination assessment of adverse effects on site integrity for Deenish Islands and Scariff Island SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar, Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited,</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.123.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.123.</p>
	O&M	Fulmar, Manx shearwater	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.123.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.123 ex situ.</p>
Disturbance and displacement	Construction	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater SCI of Deenish Islands and Scariff Island SPA are assessed to be negligible (a total of 0.014 individuals per annum [one mortality per 71 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.27). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Deenish Island and Scariff Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Deenish Islands and Scariff Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Deenish Islands and Scariff Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.123.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater SCI of Deenish Islands and Scariff Island SPA are assessed to be negligible (a total of 0.028 individuals per annum [one mortality per 36 years], representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.27). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Deenish Island and Scariff Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Deenish Islands and Scariff Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Deenish Islands and Scariff Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.123.</p>
Changes in prey availability	Construction	Fulmar, Manx shearwater	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.123.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.123.</p>
	O&M	Fulmar, Manx shearwater	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.123.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.123.</p>

3.30 Iveragh Peninsula SPA (IE004154)

349. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.125**, with the details provided in **Table 3.126**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.125: Summary of adverse effects on site integrity (in-combination) - Iveragh Peninsula SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.126: In-combination assessment of adverse effects on site integrity for Iveragh Peninsula SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.125.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.125.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.125.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.125 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.125.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.125.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.125.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.125.</p>

3.31 Puffin Island SPA (IE004003)

350. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: fulmar and Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.127**, with the details provided in **Table 3.128**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.127: Summary of adverse effects on site integrity (in-combination) - Puffin Island SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s): 1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats. 2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future. 3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Manx shearwater [A013]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and Displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.128: In-combination assessment of adverse effects on site integrity for Puffin Island SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar, Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.127.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.127.</p>
	O&M	Fulmar, Manx shearwater	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.127.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.127 ex situ.</p>
Disturbance and displacement	Construction	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater SCI of Puffin Island SPA are assessed to be negligible (a total of 0.038 individuals per annum [one mortality per 26 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.29). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Puffin Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Puffin Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Puffin Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.127.</p>
	O&M	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater SCI of Puffin Island SPA are assessed to be negligible (a total of 0.077 individuals per annum [one mortality per 13 years], representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures –</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>see Volume 5 Part 2, Section 4.29). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Puffin Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Puffin Island SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Puffin Island SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.127.</p>
Changes in prey availability	Construction	Fulmar, Manx shearwater	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.127.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.127.</p>
	O&M	Fulmar, Manx shearwater	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.127.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.127.</p>

3.32 Skelligs SPA (IE004007)

351. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: fulmar, gannet and Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.129**, with the details provided in **Table 3.130**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.129: Summary of adverse effects on site integrity (in-combination) - Skelligs SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s): <div><div>1.</div><div>Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.</div></div> <div><div>2.</div><div>The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.</div></div> <div><div>3.</div><div>There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.</div></div>	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Gannet [A016]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and Displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Collision [1]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Manx shearwater [A013]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and Displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.130: In-combination assessment of adverse effects on site integrity for Skelligs SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar, Manx shearwater, Gannet	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1 are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.129.</p>
		Fulmar, Manx shearwater, Gannet	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.129.</p>
	O&M	Fulmar, Manx shearwater, Gannet	array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>/ or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.129.</p>
		Fulmar, Manx shearwater, Gannet	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.129 ex situ.</p>
Disturbance and displacement	Construction	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the gannet SCI of Skelligs SPA are assessed to be negligible (a total of 0.073 individuals per annum [one mortality per 14 years], representing a 0.001% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.30). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Skelligs SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.129.</p>
		Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater SCI of Skelligs SPA are assessed to be negligible (a total of 0.004 individuals per annum [one mortality per 250 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.30). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Skelligs SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.129.</p>
	O&M	Gannet – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the gannet SCI of Skelligs SPA are assessed to be negligible (a total of 0.147 individuals per annum [one mortality per 6.8 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.30). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Skelligs SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.129.</p>
		Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater SCI of Skelligs SPA are assessed to be negligible (a total of 0.009 individuals per annum [one mortality per 111 years], representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.30). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Skelligs SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.129.</p>
Changes in prey availability	Construction	Fulmar, Manx shearwater, Gannet	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.129.</p>
		Fulmar, Manx shearwater, Gannet	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.129.</p>
	O&M	Fulmar, Manx shearwater, Gannet	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.129.</p>
		Fulmar, Manx shearwater, Gannet	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.129.</p>
Collision	O&M	Gannet	Array site	<p>Project-only collision impacts within the array site to the gannet SCI of Skelligs SPA are assessed to be negligible (a total of 0.019 individuals per annum under Design Option A [one mortality per 53 years], representing a <0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM, and a total of 0.016 individuals per annum under Design Option B [one mortality per 63 years], representing a <0.001% increase to SPA mortality rates under the preferred Band Option 1 CRM – see Volume 5 Part 2, Section 4.30).</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>It is therefore considered that the negligible project-only contribution to in-combination collision impacts to this SCI of Skelligs SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.129.</p>

3.33 Rum SPA (Scotland – UK9001341)

352. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.131**, with the details provided in **Table 3.132**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.131: Summary of adverse effects on site integrity (in-combination) - Rum SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
<p>To ensure that the qualifying features of the SPA are in favourable condition and make an appropriate contribution to achieving Favourable Conservation Status.</p> <p>To ensure that the integrity of the SPA is restored in the context of environmental changes by meeting the following for each qualifying feature:</p> <ol style="list-style-type: none"> 1. The populations of the qualifying features are viable components of the SPA. 2. The distributions of the qualifying features throughout the site are maintained by avoiding significant disturbance of the species. 3. The supporting habitats and processes relevant to qualifying features and their prey/food resources are maintained, or where appropriate, restored at the SPA 	Manx shearwater [A013]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [1]		None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high level assessment in Section 3.1 .			No AESI

Table 3.132: In-combination assessment of adverse effects on site integrity for Rum SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.131.</p>
		Manx shearwater	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.131.</p>
	O&M	Manx shearwater	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.131.</p>
		Manx shearwater	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.131 ex situ.</p>
Disturbance and displacement	Construction	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater feature of Rum SPA are assessed to be negligible (a total of 0.725 individuals per annum, representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.31). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Rum SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Rum SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Rum SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to feature Conservation Objectives stated in Table 3.131.</p>
	O&M	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with operation and maintenance phase activities within the array site to the Manx shearwater feature of Rum SPA are assessed to be negligible (a total of 1.451 individuals per annum, representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.31). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Rum SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this feature of Rum SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this feature of Rum SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.131.</p>
Changes in prey availability	Construction	Manx shearwater	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.131.</p>
		Manx shearwater	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.131.</p>
	O&M	Manx shearwater	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up to 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.131.</p>
		Manx shearwater	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.131.</p>

3.34 Mingulay and Berneray SPA (Scotland – UK9001121)

353. This SPA is designated in relation to the following feature which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.133**, with the details provided in **Table 3.134**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.133: Summary of adverse effects on site integrity (in-combination) - Mingulay and Berneray SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
<p>To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained.</p> <p>To ensure for the qualifying species that the following are maintained in the long term:</p> <ol style="list-style-type: none"> 1. Population of the species as a viable component of the site 2. Distribution of the species within site 3. Distribution and extent of habitats supporting the species 4. Structure, function and supporting processes of habitats supporting the species 5. No significant disturbance of the species 	Fulmar [A009]				
	Direct effects on habitat [1,3,4]	N/A	None	No change	No AESI
	Changes in prey availability [1,3,4]		None	No change	No AESI
	Introduction or spread of INNS [1,3,4]	See high-level assessment in Section 3.1 .			No AESI

Table 3.134: In-combination assessment of adverse effects on site integrity for Mingulay and Berneray SPA

Impact	Phase	Feature(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to feature Conservation Objectives stated in Table 3.133.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to feature Conservation Objectives stated in Table 3.133.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.133.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird feature habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to feature Conservation Objectives stated in Table 3.133 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.133.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
	O&M			<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.133.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.133.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	Feature(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.133.</p>

3.35 Blasket Islands SPA (IE004008)

354. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: fulmar and Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.135**, with the details provided in **Table 3.136**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.135: Summary of adverse effects on site integrity (in-combination) - Blasket Islands SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s): <div><div>1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.</div><div>2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.</div><div>3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.</div></div>	Fulmar [A009]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Changes in prey availability [1,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI
	Manx shearwater [A013]				
	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
	Disturbance and Displacement (including barrier effects) [1,3]		None	No change	No AESI
	Changes in prey availability [1,2,3]		None	No change	No AESI
	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.136: In-combination assessment of adverse effects on site integrity for Blasket Islands SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar, Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.135.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.135.</p>
	O&M	Fulmar, Manx shearwater	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.135.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.135 ex situ.</p>
Disturbance and displacement	Construction	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater SCI of Blasket Islands SPA are assessed to be negligible (a total of 0.118 individuals per annum [one mortality per 8.5 years], representing a 0.002% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.33). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Blasket Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Blasket Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the construction phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Blasket Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during construction with regard to SCI Conservation Objectives stated in Table 3.135.</p>
	O&M	Manx shearwater – indirect habitat loss and barrier effects	Array site	<p>Ex situ project-only disturbance and displacement impacts associated with construction phase activities within the array site to the Manx shearwater SCI of Blasket Islands SPA are assessed to be negligible (a total of 0.236 individuals per annum [one mortality per</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>4.2 years], representing a 0.005% increase to SPA mortality rates for evidence-led central value displacement figures – see Volume 5 Part 2, Section 4.33). It is therefore considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Blasket Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Although this SCI of Blasket Islands SPA may also experience disturbance and displacement from those other projects listed in Table 3.1, which are also within this species' mean maximum (+ 1 SD) foraging range of the SPA during the operation and maintenance phase of the CWP Project, it is considered that the negligible project-only contribution to in-combination disturbance and displacement impacts to this SCI of Blasket Islands SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement impacts during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.135.</p>
Changes in prey availability	Construction	Fulmar, Manx shearwater	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.135.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.135.</p>
	O&M	Fulmar, Manx shearwater	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.135.</p>
		Fulmar, Manx shearwater	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCIs. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCIs. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.135.</p>

3.36 Dingle Peninsula SPA (IE004153)

355. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.137**, with the details provided in **Table 3.138**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.137: Summary of adverse effects on site integrity (in-combination) – Dingle Peninsula SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Fulmar [A009]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Changes in prey availability [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.138: In-combination assessment of adverse effects on site integrity for Dingle Peninsula SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.137.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.137.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.137.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.137 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.137.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.137.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.137.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.137.</p>

3.37 Kerry Head SPA (IE002263)

356. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: fulmar. A summary of the in-combination assessment is provided in **Table 3.139**, with the details provided in **Table 3.140**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.139: Summary of adverse effects on site integrity (in-combination) - Kerry Head SPA

Objective: Attributes and targets	Predicted effect	Link to assessment	Mitigation	Residual effect	Conclusion
Disturbance and Objective: To maintain or restore the favourable conservation condition of the SCI(s):	Fulmar [A009]				
1. Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	Direct effects on habitat [1,3]	N/A	None	No change	No AESI
2. The natural range of the SCI is neither being reduced nor is likely to be reduced for the foreseeable future.	Changes in prey availability [1,3]		None	No change	No AESI
3. There is, and will probably continue to be, a sufficiently large habitat to maintain the SCI's populations on a long-term basis.	Introduction or spread of INNS [1,3]	See high-level assessment in Section 3.1 .			No AESI

Table 3.140: In-combination assessment of adverse effects on site integrity for Kerry Head SPA

Impact	Phase	SCI(s)	Area	In-combination assessment
Direct effects on habitat	Construction	Fulmar	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.139.</p>
		Fulmar	OECC	<p>Project-only construction phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during O&M with regard to SCI Conservation Objectives stated in Table 3.139.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.139.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.139 ex situ.</p>
Changes in prey availability	Construction	Fulmar	Array site	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Although some seabird prey species (such as gadoids, clupeids and sandeels) may be susceptible to injury or mortality from underwater noise generated by construction phase piling activities, such impacts are considered to occur only within very low proportions of theoretical ex situ seabird foraging areas. Impacts to seabird prey species from CWP project construction activities (noise and SSC), are not considered to translate into population-level consequences to seabird predators. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.139.</p>
		Fulmar	OECC	<p>Project-only construction phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCIs. Ex situ areas affected by increased SSC levels, as well as the spatial extents of altered or removed areas of benthic habitat during construction phase activities are also assessed to be of negligible size in relation to seabird breeding and non-breeding season range extents, with SSC impacts occurring over considerably shorter durations. Furthermore, piling activities do not form part of the construction phase activities within the OECC, with this impact being restricted to the array area only. This is considered to be true for the seabird breeding, migration and / or wintering periods.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI(s)	Area	In-combination assessment
	O&M			<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCIs themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.139.</p>
		Fulmar	Array site	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the array site are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.49 km² of previously available benthic habitat within the array site as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.139.</p>
		Fulmar	OECC	<p>Project-only operation and maintenance phase impacts arising from changes in prey availability on an ex situ basis within the OECC are considered to represent a negligible proportion prey availability for the seabird SCI. Key seabird prey species may experience the loss of up 0.11 km² of previously available benthic habitat within the OECC as a result of occupancy of the seabed by infrastructure during the operation and maintenance phase of the CWP Project. The areas which may experience long-term alteration of any benthic habitats which have the potential to support populations of key seabird prey species constitute only a very small proportion of the extent of ex situ foraging areas available to seabird SCI. Operation and maintenance phase activities do not require disturbance of the seabed, and neither are piling works or any other very high energy underwater noise inducing activities required. There is not considered to be a pathway for operation and maintenance phase underwater noise or SSC impacts to have the potential to cause changes to prey availability in such a way that could impact seabird SCI. This is considered to be true for the seabird breeding, migration and / or wintering periods. Furthermore, the magnitude of impacts to potentially sensitive fish species arising from the presence of an EMF around infrastructure cables are assessed as being very low.</p> <p>When combined with Tier 1 projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1 project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p>



Impact	Phase	SCI(s)	Area	In-combination assessment
				<p>When combined with Tier 1, Tier 2a and Tier 2b projects impacts on prey availability are considered similarly negligible. This is on the basis that the Tier 1, 2a and 2b project effects on fish populations, and therefore prey availability, are spatially discrete, the Tier 1, 2a and 2b developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1, 2a and 2b projects are available for the specific SPA the projects within Tier 1, 2a and 2b have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total impact on prey availability, is therefore considered to be negligible in relation to seabird prey species' habitat extents, and by extension to the habitat use areas available to seabird SCI themselves.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.139.</p>

Marine Area SPAs

3.38 North-west Irish Sea SPA (IE004236)

357. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: red-throated diver, great northern diver, fulmar, Manx shearwater, cormorant, shag, common scoter, little gull, black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, kittiwake, roseate tern, common tern, Arctic tern, little tern, guillemot, razorbill, puffin. A summary of the in-combination assessment is provided in **Table 3.141**, with the details provided in **Table 3.142**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.141: Summary of assessment of adverse effects on site integrity (in-combination) - North-west Irish Sea SPA

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Kittiwake [A188]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	Section 64.36 of Volume 5 Part 2	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA						
Fulmar [A009]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution						
5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA						
Cormorant [A017]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. Long-term population trend within the SPA is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement [1,2,3,4]		None	No change	No AESI

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site 5. Barriers to connectivity	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target 4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
		5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Herring gull [A184]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	Section 4.36 of Volume 5 Part 2	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
Lesser black-backed gull [A183]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target			None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
Guillemot [A199]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	4. Disturbance across the site 5. Barriers to connectivity	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Razorbill [A200]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site 5. Barriers to connectivity	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Puffin [A204]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site 5. Barriers to connectivity	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Manx shearwater [A013]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution 3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population 3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	5. Barriers to connectivity	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Changes in prey availability [1,2,3]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
Common tern [A193]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size 2. Spatial distribution 3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site 5. Barriers to connectivity	1. No significant decline 2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population 3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target 4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
			Disturbance and displacement [1,2,3,4]		None	No change	No AESI
			Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
			Arctic tern [A194]				
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size 2. Spatial distribution 3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site 5. Barriers to connectivity	1. No significant decline 2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population 3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target 4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
			Disturbance and displacement [1,2,3,4]		None	No change	No AESI
			Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
			Roseate tern [A192]				
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement [1,2,3,4]		None	No change	No AESI

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site 5. Barriers to connectivity	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target 4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .		No AESI	
Shag [A018]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size 2. Spatial distribution 3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site 5. Barriers to connectivity	1. Long-term SPA population trend is stable or increasing 2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population 3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target 4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
			Disturbance and displacement [1,2,3,4]		None	No change	No AESI
			Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .		No AESI	
Great northern diver [A003]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size 2. Spatial distribution 3. Forage spatial distribution, extent, abundance and availability 4. Disturbance across the site 5. Barriers to connectivity and site use	1. No significant decline 2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population 3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target 4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Direct effects on habitat [1,2]	Section 4.36 of Volume 5 Part 2	None	No change	No AESI
			Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
			Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .		No AESI	
Little tern [A195]							

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Red-throated diver [A001]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity and site use	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Common scoter [A065]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity and site use	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Black-headed gull [A179]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI
	4. Disturbance across the site 5. Barriers to connectivity and site use	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Common gull [A182]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. No significant decline	Direct effects on habitat [1,2]	Section 4.36 of Volume 5 Part 2	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI
	4. Disturbance across the site 5. Barriers to connectivity and site use	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Little gull [A177]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. No significant decline	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects) [1,2,3,4,5]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site						

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	5. Barriers to connectivity	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Collision [1]		None	No change	No AESI
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI
Great black-backed gull [A187]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. No significant decline	Direct effects on habitat [1,2]	Section 4.36 of Volume 5 Part 2	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI
	4. Disturbance across the site 5. Barriers to connectivity and site use	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution 5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI

Table 3.142: In-combination assessment of adverse effects on site integrity for North-west Irish Sea SPA

Impact	Phase	SCI (s)	Area	In-combination assessment
Direct effects on habitat	Construction	Red-throated diver, great northern diver, fulmar, Manx shearwater, cormorant, shag, common scoter, little gull, black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, kittiwake, roseate tern, common tern, Arctic tern, little tern, guillemot, razorbill, puffin	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.141 .
			OECC intertidal landfall	<p>The ex situ effects on habitat from construction phase activities within this area will result in very limited impacts on these SPA SCIs. As the spatial extent of impacts will be small at any given moment in time during construction phase activities in comparison to the available habitat, and given the rate of recoverability of available habitat following backfilling and removal of supporting infrastructure and/or vehicles,</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.141.</p>
	O&M		Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.141.</p>
			OECC intertidal landfall	<p>The ex situ effects from disturbance and displacement from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 8.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				<p>considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.141.</p>
Disturbance and displacement	Construction	Guillemot, razorbill, puffin, Manx shearwater, great northern diver, red-throated diver, common scoter and little gull	Array site	<p>For all SCIs, as the separation distance between the array site and this SPA (21.35 km) is greater than the maximum distance at which individuals within the SPA may experience disturbance effects, disturbance and displacement in the form of ex situ, indirect habitat loss around WTGs as they are installed, and construction phase activities within the array site will not adversely affect the spatial distribution of these SCIs or their supporting habitats within the SPA (Section 4.36 of Volume 5 Part 2). Barrier effects are also determined to be negligible for all SCIs, and will similarly not impact on the conservation objects, attributes and targets of these SCIs (Section 4.36 of Volume 5 Part 2).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.36). Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.141.</p>
		Guillemot, razorbill, puffin, cormorant, shag, great northern diver, red-throated diver, common scoter and little gull	OECC	<p>For most SCIs, the separation distance between the OECC and this SPA (1.27 km) is greater than the maximum distance at which disturbance effects may arise from construction phase activities within the OECC, or for some SCIs (cormorant, shag, great northern diver, red-throated diver and common scoter) a population within only a very small proportion of the SPA (<0.1% of SPA area) may experience ex situ disturbance and only then from works over an extremely limited duration if they occur within the northernmost extent of the OECC (Section 4.36 of Volume 5 Part 2).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.36). Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.141.</p>
		Common tern, Arctic tern, lesser black-backed gull, herring gull, cormorant, red-throated diver, great northern diver, common scoter, black-headed gull, common gull, great black-backed gull.	OECC intertidal landfall	<p>The ex situ effects from disturbance and displacement from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.141.</p>
	O&M	Guillemot, razorbill, puffin, Manx shearwater, great northern diver, red-throated diver, common scoter and little gull	Array site	<p>For all SCIs, as the separation distance between the array site and this SPA (21.35 km) is greater than the maximum distance at which individuals within the SPA may experience disturbance effects, disturbance and displacement in the form of ex situ indirect habitat loss around installed WTGs, and operation and maintenance phase activities within the array site will not adversely affect the spatial distribution of these SCIs or their supporting habitats within the SPA (Section 4.36 of Volume 5 Part 2). Barrier effects are also determined to be negligible for all SCIs, and will similarly not impact on the conservation objects, attributes and targets of these SCIs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.36). Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from operation and maintenance phase activities with regard to SCI Conservation Objectives stated in Table 3.141 .
		Guillemot, razorbill, puffin, Manx shearwater, great northern diver, red-throated diver, common scoter and little gull	OECC	For most SCIs, the separation distance between the OECC and this SPA (1.27 km) is greater than the maximum distance at which disturbance effects may arise from operation and maintenance phase activities within the OECC, or for some SCIs (cormorant, shag, great northern diver, red-throated diver and common scoter) a population within only a very small proportion of the SPA (<0.1% of SPA area) may experience disturbance and only then from works over an extremely limited duration if they occur within the northernmost extent of the OECC (Section 4.36 of Volume 5 Part 2). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.36). Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from operation and maintenance phase activities during construction with regard to SCI Conservation Objectives stated in Table 3.141 .
		Common tern, Arctic tern, lesser black-backed gull, herring gull, cormorant, red-throated diver, great northern diver, common scoter, black-headed gull, common gull, great black-backed gull.	OECC intertidal landfall	The ex situ effects from disturbance and displacement from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.141 .
Changes in prey availability	Construction	Red-throated diver, great northern diver, fulmar, Manx shearwater, cormorant, shag, common scoter, little gull, black-headed gull, common gull, lesser black-backed gull, herring gull, great black-backed gull, kittiwake, roseate tern, common tern, Arctic tern, little tern, guillemot, razorbill, puffin	Array site	Project-only ex situ changes in prey availability impacts to SCIs of North-west Irish Sea SPA arising from construction phase activities within the array site are assessed to be negligible on account of the separation distance between the array site and the SPA (21.35 km) (Volume 5 Part 2, Section 4.36). This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of North-west Irish Sea SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.141 .
			OECC	Project-only ex situ changes in prey availability impacts to SCIs of North-west Irish Sea SPA arising from construction phase activities within the OECC are assessed to be spatially and temporally extremely limited. As suspended sediment plumes created during dredge disposal and trenching operations within the OECC during construction phase works are predicted to enhance SSC levels over up to 4-5 km and 7 km, respectively, for a duration of approximately 10 days for both operations, there is the potential (dependant on tidal conditions) that SSC levels may be temporarily increased within a small area within the south of the North-west Irish Sea SPA (which is 1.27 km from the closest area within the OECC in which these operations may occur). Additionally, very small areas benthic habitat within the OECC which may serve as supporting nursery habitats for key prey species for seabirds within the SPA may be altered or removed during construction phase activities within the OECC. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of North-west Irish Sea SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed

Impact	Phase	SCI (s)	Area	In-combination assessment
	O&M			to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.141 .
			OECC intertidal landfall	<p>The ex situ effects from changes in prey availability from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Given the high rate of recoverability of the impacted habitat (and associated organisms) and the temporary nature of trenching activities. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.141.</p>
			Array site	Project-only ex situ changes in prey availability impacts to SCIs of North-west Irish Sea SPA arising from operation and maintenance phase activities within the array site are assessed to be negligible on account of the separation distance between the array site and the SPA (21.35 km) (Volume 5 Part 2, Section 4.36). This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of North-west Irish Sea SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from operation and maintenance phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.141 .
			OECC	<p>Project-only ex situ changes in prey availability impacts to SCIs of North-west Irish Sea SPA arising from operation and maintenance phase activities within the OECC are assessed to be negligible as transmission infrastructure will be buried and passive and maintenance works likely to be highly localised and of limited duration should they be required. This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of North-west Irish Sea SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.141.</p>
Collision	O&M	Red-throated diver, great northern diver, cormorant, common scoter, little gull, black-headed gull, lesser black-backed gull,	OECC intertidal landfall	<p>The ex situ effects from changes in prey availability from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the high rate of recoverability of the impacted habitat (and associated organisms) and the temporary nature of trenching activities, This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.141.</p>
			Array site	Project-only collision impacts to these SCIs of North-west Irish Sea SPA are assessed to be negligible on account that either no flight activity was recorded within the array site during baseline ornithological surveys, or that flight activity levels were so low as to

Impact	Phase	SCI (s)	Area	In-combination assessment
				preclude CRM. Should collision events occur, they would do so rarely and not adversely affect SCI populations in terms of Conservation Objectives, attributes and targets (Table 3.1).
				In the considering the collision mortality estimates from projects listed in Table 3.1 , these are not available or provided; however it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.
				As such, there is assessed to be no in-combination AESI with the projects listed in as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.141 .
		Shag, roseate tern, common tern, Arctic tern, little tern		Project-only collision impacts to these SCIs of North-west Irish Sea SPA are assessed to be negligible on account that these species are designated in relation to their breeding populations at SPA colonies surrounding North-west Irish Sea SPA, but the distance between those colonies and the array site is greater than the foraging range of those species. As such, these SCIs of North-west Irish Sea SPA are assessed not to have functional connectivity with the array site. In the considering the collision mortality estimates from projects listed in Table 3.1 , these are not available or provided; however it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.
		Common gull		As such, there is assessed to be no in-combination AESI with the projects listed in as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.141 .
				See Section 3.38.1. No in-combination AESI.
		Herring gull		See Section 3.38.2. No in-combination AESI.
		Great black-backed gull		See Section 3.38.3. No in-combination AESI.
		Kittiwake		See Section 3.38.4. No in-combination AESI.

3.38.1 Collision – Operation and Maintenance – Common gull – Array site

358. Common gull is designated as an SCI of North-west Irish Sea SPA in relation to the population of this species which utilises this area during non-breeding periods. Project-only collision mortality of common gull apportioned to this SPA is 0.100 and 0.088 individuals per annum for array site Designs Option A or B, respectively.
359. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
360. No information is available with regard to the contribution of Tier 1 other OWF projects (**Table 8.1**) to collision mortality of this SCI, however, as such projects (with the exception of seven small turbines at Arklow Bank Phase 1 [for which no collision mortality information is available]) lie outside of Irish waters and distant from the SPA, connectivity with the North-west Irish Sea SPA for this SCI will be extremely limited.
361. If the same impact apportioning rationale as for the project only assessment (**Volume 5 Part 2, Section 4.36**) is also used for Tier 2 OWF projects (Tier 2a - NISA, Dublin Array: total = 5.44 mortalities per annum; Tier 2b - Oriel and Arklow Phase 2: total = 157.27 mortalities per annum), with 4.25% of the total annual impact apportioned to North-west Irish Sea SPA on the basis of the SPA population size as a proportion of the estimated regional population, the in-combination total annual mortality apportioned to North-west Irish Sea SPA from the CWP project plus other Tier 2a projects equals 0.33 and 0.32 individuals per annum for array site Design Options A and B, respectively. The in-combination total annual mortality apportioned to North-west Irish Sea SPA from the CWP project plus other Tier 2a and Tier 2b projects equals 7.02 or 7.00 individuals per annum for array site Design Options A and B, respectively.
362. As the common gull non-breeding population of North-west Irish Sea SPA is estimated to be 2,866 individuals (NPWS, 2023) and the average annual mortality rate of common gull is estimated to be 25.3% (**Volume 4, Appendix 10.5 Ornithology Baseline characterisation report** of the EIAR) the average annual mortality of common gull associated with North-west Irish Sea SPA is estimated to be 725.10 individuals. As such, the in-combination collision mortality of CWP project plus other Tier 2a projects equates to a 0.05% or 0.04% increase in mortality rates to the common gull SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively. The in-combination collision mortality of CWP project plus other Tier 2a projects and Tier 2b projects equates to a 0.97% increase in mortality rates to the common gull SCI of North-west Irish Sea SPA for both Design Options A and B.
363. As additional mortality resulting from in-combination collision impacts are estimated to represent only a small potential increase (much less than 1% for CWP project plus other Tier 2a projects and less than 1% for CWP project plus other Tier 2a projects and Tier 2b projects) to SCI baseline mortality rates, this impact will not result in an AESI in relation to the Conservation Objective and attributes and targets for this SCI as stated in Table 8.142. Specifically, this negligible increase to baseline mortality is considered not to affect the population dynamics of the SCI in such a way as to compromise its ability to maintain itself on a long-term basis as a viable component of its natural habitats. Thereby, collision impacts to the common gull SCI of North-west Irish Sea SPA will not adversely affect the Conservation Objective of the SPA to maintain favourable the conservation condition of the SCI through no significant declines in its breeding population abundance.
364. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.142**.

3.38.2 Collision – Operation and Maintenance – Herring gull – Array site

365. Herring gull is designated as a SCI of North-west Irish Sea SPA in relation to the number of individuals of this species which use this area throughout the year, and in particular associated with breeding colonies at Lambay Island SPA, Ireland's Eye SPA and Skerries Islands SPA. All of these colonies are within the mean maximum (+ 1 SD) foraging range of herring gull (85.6 km - Woodward et al., 2019) from the array site, and as such are assessed to have potential connectivity with the array site. Project-only collision mortality of herring gull apportioned to this SPA is 2.52 and 2.14 individuals per annum for array site Designs Option A or B, respectively for preferred Band Option 1 CRMs.
366. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
367. No herring gull mortalities are apportioned to these SPAs in relation to Tier 1 OWF projects while a total of 4.31 herring gull mortalities are apportioned to these SPAs from other Tier 2a OWF projects (NISA and Dublin Array) and a total of 3.09 from Tier 2b projects (Oriel and Arklow Phase 2). This results in a predicted CWP project plus other Tier 2a project in-combination collision mortality of 6.83 or 6.45 individuals per annum, for array site Design Options A and B respectively and a CWP project, plus other Tier 2a project, plus Tier 2b in-combination collision mortality of 9.92 or 9.54 individuals per annum, for array site Design Options A and B respectively.
368. As the combined breeding herring gull population of the listed SPA colonies which contribute to the North-west Irish SPA breeding herring gull population is estimated to be 2,468 individuals (SMP, 2023) and the average adult annual mortality rate is estimated to be 16.6% (**Volume 4, Appendix 10.5 Ornithology Baseline characterisation report** of the EIAR) the average annual mortality of herring gull associated with North-west Irish Sea SPA is estimated to be 409.69 individuals. As such, the in-combination collision mortality of CWP project plus other Tier 2a projects equates to a 1.67% or 1.57% increase in mortality rates to the herring gull SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively. The in-combination collision mortality of CWP project plus other Tier 2a projects and Tier 2b projects equates to a 2.42% or 2.33% increase in mortality rates to the herring gull SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively.
369. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates, PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the herring gull SCI breeding population.
370. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to North-west Irish Sea SPA breeding herring gull population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS in relation to the total apportioned collision mortality impacts of the CWP project, other Tier 2a projects and Tier 2b projects.
371. Proportional impacts to the SPA population, calculated as collision mortality divided by the sum of the Lambay Island, Ireland's Eye and Skerries Islands SPAs breeding population sizes (2,468 individuals – 2015 and 2010 counts – SMP, 2023), are 0.00402 and 0.00387 in relation to the CWP project plus other Tier 2a projects and Tier 2b projects for Designs Options A or B, respectively.
372. Counterfactual outputs from PVA models for in-combination scenarios are CGR values of 0.99505 (CPS = 0.87794) for the in-combination collision mortality totals including array site Design Option A and 0.99532 (CPS = 0.88380) for the in-combination collision mortality totals including array site Design Option B.

373. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
374. At North-west Irish Sea SPA, where the total herring gull breeding population of key colonies appears to be decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
375. CGR values of in-combination collision impacts to the herring gull SCI of North-west Irish Sea SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.995 for array site Design Options A and B (Table A). A CGR threshold of 0.995 (i.e., if CGR values less than 0.995 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
376. As such, in-combination collision impacts to the herring gull SCI of North-west Irish Sea SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.141**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
377. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.141**.

3.38.3 Collision – Operation and Maintenance – Great black-backed gull – Array site

378. Great black-backed gull is designated as an SCI of North-west Irish Sea SPA in relation to the population of this species which utilises this area during non-breeding periods. Project-only collision mortality of great black-backed gull apportioned to this SPA is 0.163 and 0.129 individuals per annum for array site Designs Option A or B, respectively.
379. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
380. No information is available with regard to the contribution of Tier 1 other OWF projects (**Table 3.1**) to collision mortality of this SCI, however, as such projects (with the exception of seven small turbines at Arklow Bank Phase 1 [for which no collision mortality information is available]) lie outside of Irish waters and distant from the SPA, connectivity with the North-west Irish Sea SPA for this SCI is likely to be extremely limited.
381. If the same impact apportioning rationale as for the project only assessment (**Volume 5 Part 2, Section 4.36**) is also used for Tier 2 OWF projects (Tier 2a - NISA, Dublin Array: total = 26.29 mortalities per annum; Tier 2b - Oriel and Arklow Phase 2: total = 65.91 mortalities per annum), with 3.92% of the total annual impact apportioned to North-west Irish Sea SPA on the basis of the SPA population size as a proportion of the estimated regional population, the in-combination total annual mortality apportioned to North-west Irish Sea SPA from the CWP project plus other Tier 2a projects equals 1.19 and 1.16 individuals per annum for array site Design Options A and B, respectively. The in-combination total annual mortality apportioned to North-west Irish Sea SPA from the CWP project

plus other Tier 2a and Tier 2b projects equals 3.77 or 3.74 individuals per annum for array site Design Options A and B, respectively.

382. As the great black-backed gull non-breeding population of North-west Irish Sea SPA is estimated to be 2,096 individuals (NPWS, 2023) and the average annual mortality rate of great black-backed gull is estimated to be 9.5% (**Volume 4, Appendix 10.5 Ornithology Baseline characterisation report** of the EIAR) the average annual mortality of great black-backed gull associated with North-west Irish Sea SPA is estimated to be 199.12 individuals. As such, the in-combination collision mortality of CWP project plus other Tier 2a projects equates to a 0.60% or 0.58% increase in mortality rates to the great black-backed gull SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively. The in-combination collision mortality of CWP project plus other Tier 2a projects and Tier 2b projects equates to a 1.89% or 1.88% increase in mortality rates to the great black-backed gull SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively.
383. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates, PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the great black-backed gull SCI non-breeding population.
384. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to North-west Irish Sea SPA non-breeding great black-backed gull population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS in relation to the total apportioned collision mortality impacts of the CWP project, other Tier 2a projects and Tier 2b projects.
385. Proportional impacts to the SPA population, taken from the site Conservation Objectives (NPWS, 2023 – 2,096 individuals – count from 2016), are 0.00180 and 0.00179 for in-combination collision mortality totals including array site Designs Options A or B, respectively.
386. Counterfactual outputs from PVA models for in-combination scenarios are CGR values of 0.99807 (CPS = 0.95104) for the in-combination collision mortality totals including array site Design Option A and 0.99807 (CPS = 0.95117) for the in-combination collision mortality totals including array site Design Option B.
387. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
388. As the population trend of great black-backed gull using North-west Irish Sea SPA during non-breeding periods is unknown, but more widely populations of this species are declining (Burnell et al., 2023), a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
389. CGR values of in-combination collision impacts to the great black-backed gull SCI of North-west Irish Sea SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.998 for array site Design Options A and B (Table A). A CGR threshold of 0.998 (i.e., if CGR values less than 0.998 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
390. As such, in-combination collision impacts to the great black-backed gull SCI of North-west Irish Sea SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in **Table 3.141**. Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.

391. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.141**.

3.38.4 Collision – Operation and Maintenance – Kittiwake – Array site

392. Kittiwake is designated as a SCI of North-west Irish Sea SPA in relation to the number of individuals of this species which use this area throughout the year, and in particular associated with breeding colonies at Lambay Island SPA, Howth Head Coast SPA and Ireland's Eye SPA. All of these colonies are within the mean maximum (+ 1 SD) foraging range of kittiwake (300.6 km - Woodward et al., 2019) from the array site, and as such are assessed to have potential connectivity with the array site. Project-only collision mortality of kittiwake apportioned to this SPA is 0.98 and 0.85 individuals per annum for array site Designs Option A or B, respectively for preferred Band Option 1 CRMs.
393. A conclusion was drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in **Volume 5**, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.
394. Collectively a total of 6.85 kittiwake mortalities are apportioned to these SPAs in relation to Tier 1 OWF projects (namely from Awel Y Mor, Erebus, Mona and Morgan OWFs), while a total of 7.84 kittiwake mortalities are apportioned to these SPAs from other Tier 2a OWF projects (NISA and Dublin Array) and a total of 7.07 from Tier 2b projects (Oriel and Arklow Phase 2). This results in a predicted CWP project, plus Tier 1 project, plus other Tier 2a project in-combination collision mortality of 15.67 or 15.54 individuals per annum, for array site Design Options A and B respectively and a CWP project, plus Tier 1 project, plus other Tier 2a project, plus Tier 2b project in-combination collision mortality of 22.74 or 22.61 individuals per annum, for array site Design Options A and B respectively.
395. As the combined breeding kittiwake population of the listed SPA colonies which contribute to the North-west Irish SPA breeding kittiwake population is estimated to be 10,988 individuals (SMP, 2023) and the average adult annual mortality rate is estimated to be 14.6% (**Volume 4, Appendix 10.5 Ornithology Baseline characterisation report** of the EIAR) the average annual mortality of kittiwake associated with North-west Irish Sea SPA is estimated to be 1,604.25 individuals. As such, the in-combination collision mortality of CWP project plus Tier 1 projects plus other Tier 2a projects equates to a 0.97% or 0.97% increase in mortality rates to the kittiwake SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively. The in-combination collision mortality of CWP project plus Tier 1 projects plus other Tier 2a projects and Tier 2b projects equates to a 1.42% or 1.41% increase in mortality rates to the kittiwake SCI of North-west Irish Sea SPA for array site Design Options A and B, respectively.
396. As in-combination impact magnitudes are predicted to result in a greater than 1% increase to annual SPA mortality rates, PVA is required to determine if additional mortality from in-combination collision impacts represents an AESI to the SPA through its consequences to the kittiwake SCI breeding population.
397. Using the online version of the Natural England and JNCC Seabird PVA tool (http://ec2-34-243-66-127.eu-west-1.compute.amazonaws.com/shiny/seabirds/PVATool_Nov2022/R/), a Density Independent PVA of in-combination impacts to North-west Irish Sea SPA breeding kittiwake population was undertaken using the parameters outlined in **Appendix 4 Population Viability Analysis** in **Volume 7** of this NIS in relation to the total apportioned collision mortality impacts of the CWP project, Tier 1 projects, other Tier 2a projects and Tier 2b projects.
398. Proportional impacts to the SPA population, calculated as collision mortality divided by the sum of the Lambay Island, Ireland's Eye and Howth Head Coast SPAs breeding population sizes (10,988

individuals – 2015 and 2018 counts), are 0.00206 and 0.00205 for in-combination collision mortality totals including array site Designs Option A or B, respectively.

399. Counterfactual outputs from PVA models for in-combination scenarios are CGR values of 0.99754 (CPS = 0.93769) for the in-combination collision mortality totals including array site Design Option A and 0.99754 (CPS = 0.93718) for the in-combination collision mortality totals including array site Design Option B.
400. Determination of whether collision impacts result in AESI in relation to specified CGR values is supported by the rationale presented in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity, which was submitted to NPWS in 2022.
401. At North-west Irish Sea SPA, where the total kittiwake breeding population of key colonies appears to be decreasing, consideration is required as to whether additional impacts may meaningfully worsen population decline and a conservative CGR threshold of 0.995 is considered to be prudent in the determination of AESI (as outlined in the CGR appendix Number CWP_OffOrn_2: Justification of the use of Counterfactual of Growth Rate Values to determine Adverse Effect on Site Integrity).
402. CGR values of in-combination collision impacts to the kittiwake SCI of North-west Irish Sea SPA for the most inclusive in-combination scenarios (i.e., the CWP Project plus Tier 1 projects, other Tier 2a projects and Tier 2b projects) exceed 0.997 for array site Design Options A and B (Table A). A CGR threshold of 0.997 (i.e., if CGR values less than 0.997 are considered to result in AESI) is considered to be highly conservative in relation to precedence from UK OWF applications (i.e., Natural England, 2021; Norfolk Vanguard, 2019; Seagreen, 2018; Awel Y Mor, 2022).
403. As such, in-combination collision impacts to the kittiwake SCI of North-west Irish Sea SPA are considered not to result in an AESI in relation to the Conservation Objectives, attributes and targets outlined in (**Volume 5 Part 2, Section 4.36**). Specifically, this very small reduction in population growth rate is considered not to affect the population dynamics of the SCI in such a way as to adversely affect its ability to maintain itself on a long-term basis as a viable component of its natural habitats.
404. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be **no in-combination AESI** as a result of collision impacts with regard to SCI Conservation Objectives stated in **Table 3.141**.

3.39 Seas off Wexford SPA (IE004237)

405. This SPA is designated in relation to the following SCIs which have been screened in for consideration within the NIS: kittiwake, fulmar, cormorant, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, Manx shearwater, red-throated diver, common scoter and gannet. A summary of the in-combination assessment is provided in **Table 3.143**, with the details provided in **Table 3.144**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.143: Summary of adverse effects on site integrity (in-combination) - Seas off Wexford SPA

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Kittiwake [A188]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
			Changes in prey availability [1,2,3]		None	No change	No AESI
			Collision [1]		None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population					
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target					
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
Introduction or spread of INNS [1,2,3]			See high level assessment in Section 3.1 .		No AESI		
Fulmar [A009]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target					
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .		No AESI	

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Cormorant [A017]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Population size	1. Long-term population trend within the SPA is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement [1,2,3,4]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.			No AESI
Herring gull [A184]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.			No AESI
Lesser black-backed gull [A183]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Changes in prey availability [1,2,3]		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Collision [1]		None	No change	No AESI

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.			No AESI
Guillemot [A199]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA	Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
Razorbill [A200]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.			No AESI
Puffin [A204]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
Manx shearwater [A013]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution					
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI	
Red-throated diver [A001]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
	3. Forage spatial distribution, extent, and abundance	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
				Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI
Common scoter [A065]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Non-breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					
				Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1.		No AESI
Gannet [A016]							
To maintain the favourable conservation condition of the SCI in the SPA	1. Breeding population size	1. Long-term SPA population trend is stable or increasing	Direct effects on habitat [1,2]	N/A	None	No change	No AESI
	2. Spatial distribution	2. Sufficient number of locations, area, and availability (in terms of timing and intensity of use) of suitable habitat to support the population	Disturbance and displacement (including barrier effects)		None	No change	No AESI
	3. Forage spatial distribution, extent, abundance and availability	3. Sufficient number of locations, area of suitable habitat and available forage biomass to support the population target	Changes in prey availability [1,2,3]		None	No change	No AESI
	4. Disturbance across the site	4. The intensity, frequency, timing and duration of disturbance occurs at levels that do not significantly impact the achievement of targets for population size and spatial distribution	Collision [1]		None	No change	No AESI
	5. Barriers to connectivity	5. The number, location, shape and area of barriers do not significantly impact the site population's access to the SPA or other ecologically important sites outside the SPA					

Objective:	Attribute	Target	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
			Introduction or spread of INNS [1,2,3]	See high level assessment in Section 3.1 .			No AESI

Table 3.144: In-combination assessment of adverse effects on site integrity for Seas off Wexford SPA

Impact	Phase	SCI (s)	Area	In-combination assessment
Direct effects on habitat	Construction	Kittiwake, fulmar, cormorant, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, Manx shearwater, red-throated diver, common scoter and gannet.	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.143.</p>
	O&M		Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) is predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				<p>detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.143.</p>
Disturbance and displacement	Construction	Guillemot, razorbill, puffin, Manx shearwater, red-throated diver, common scoter and gannet	Array site	<p>For all SCIs, as the separation distance between the array site and this SPA (60.41 km) is greater than the maximum distance at which individuals within the SPA may experience disturbance effects, disturbance and displacement in the form of ex situ indirect habitat loss around WTGs as they are installed, and construction phase activities within the array site will not adversely affect the spatial distribution of these SCIs or their supporting habitats within the SPA. Barrier effects are also determined to be negligible for all SCIs, and will similarly not impact on the conservation objects, attributes and targets of these SCIs (Section 4.37 of Volume 5 Part 2).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.37) in Volume 5 Part 2. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.143.</p>
		Guillemot, razorbill, puffin, cormorant, red-throated diver and common scoter	OECC	<p>For all SCIs, the separation distance between the OECC and this SPA (51.93 km) is greater than the maximum distance at which ex situ disturbance effects may arise from construction phase activities within the OECC.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.37) in Volume 5 Part 2. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activities within the OECC during construction with regard to SCI Conservation Objectives stated in Table 3.143.</p>
	O&M	Guillemot, razorbill, puffin, Manx shearwater, red-throated diver, common scoter and gannet	Array site	<p>For all SCIs, as the separation distance between the array site and this SPA (60.41 km) is greater than the maximum distance at which individuals within the SPA may experience disturbance effects, disturbance and displacement in the form of ex situ indirect habitat loss around installed WTGs, and operation and maintenance phase activities within the array site will not adversely affect the spatial distribution of these SCIs or their supporting habitats within the SPA (Section 4.37 of Volume 5 Part 2). Barrier effects are also determined to be negligible for all SCIs, and will similarly not impact on the conservation objects, attributes and targets of these SCIs (Section 4.37 of Volume 5 Part 2).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.37) in Volume 5 Part 2. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from operation and maintenance phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.143.</p>
		Guillemot, razorbill, puffin, cormorant, red-throated diver and common scoter	OECC	<p>For all SCIs, the separation distance between the OECC and this SPA (51.93 km) is greater than the maximum distance at which ex situ disturbance effects may arise from operation and maintenance phase activities within the OECC.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.37) in Volume 5 Part 2. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				disturbance and displacement from operation and maintenance phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.143 .
Changes in prey availability	Construction	Kittiwake, fulmar, cormorant, herring gull, lesser black-backed gull, guillemot, razorbill, puffin, Manx shearwater, red-throated diver, common scoter and gannet.	Array site	Project-only changes in prey availability impacts to SCIs of Seas off Wexford SPA arising from operation and maintenance phase activities within the array site on an ex situ basis are assessed to be negligible on account of the separation distance between the array site and the SPA (60.41 km) (Volume 5 Part 2, Section 4.37). This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of Seas off Wexford SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.143 .
			OECC	Project-only changes in prey availability impacts to SCIs of Seas off Wexford SPA arising from construction phase activities on an ex situ basis within the OECC are assessed to be spatially and temporally extremely limited. Suspended sediment plumes created during construction operations within the OECC are predicted to enhance SSC levels over up to 7 km, well short of the minimum separation of 51.93 km between the Seas off Wexford SPA and the OECC. Any very small areas benthic habitat within the OECC which may serve as supporting nursery habitats for key prey species for seabirds within the SPA which may be altered or removed during construction phase activities within the OECC will not affect prey availability to the SCIs of Seas off Wexford SPA. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of Seas off Wexford SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.143 .
	O&M		Array site	Project-only changes in prey availability impacts to SCIs of Seas off Wexford SPA arising from operation and maintenance phase activities on an ex situ basis within the array site are assessed to be negligible on account of the separation distance between the array site and the SPA (60.41 km) (Volume 5 Part 2, Section 4.37). This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of Seas off Wexford SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from operation and maintenance phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.143 .
			OECC	Project-only changes in prey availability impacts to SCIs of Seas off Wexford SPA arising from operation and maintenance phase activities within the OECC on an ex situ basis are assessed to be negligible on account of the separation distance between the OECC and the SPA (51.93 km) (Volume 5 Part 2, Section 4.37). This negligible project-only contribution to in-combination changes in prey availability impacts to these SCIs of Seas off Wexford SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.143 .
Collision	O&M	Kittiwake, cormorant, herring gull, lesser black-backed gull, red-throated diver, common scoter and gannet	Array site	Project-only collision impacts to Seas off Wexford SPA seabird SCIs are assessed to be negligible: apportioned collision mortality impacts to SPA breeding colonies supported by the Seas of Wexford SPA (specifically Saltee Islands SPA) are small in absolute terms and relative to baseline mortality rates for all relevant SCIs. This is considered to be similarly negligible when impacts are assessed in-combination with other projects listed in Table 3.1 , above. The negligible project-only contribution to in-combination collision impacts to the seabird SCIs of Seas off Wexford SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI as a result collision impacts with regard to SCI Conservation Objectives stated in Table 3.143 .

3.40 Irish Sea Front SPA

406. This SPA is designated in relation to the following SCI which have been screened in for consideration within the NIS: Manx shearwater. A summary of the in-combination assessment is provided in **Table 3.145**, with the details provided in **Table 3.146**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.145: Summary of adverse effects on site integrity (in-combination) - Irish Sea Front SPA

Objective: Attributes and targets	Predicted effect (s)	Link to assessment	Mitigation	Residual effect	Conclusion
Manx shearwater [A013]					
<p>Objective: To maintain or restore the favourable conservation condition of the SCI:</p> <p>1. Avoid significant disturbance of the qualifying feature within the site, such that the ability of the species to use the site is maintained in the long-term</p> <p>2. Maintain the habitats, processes and food resources of the qualifying feature in favourable condition</p> <p>3. Ensure connectivity between the site and its supporting habitats and Manx shearwater breeding colonies is maintained</p>	Direct effects on habitat [2]	N/A	None	No change	No AESI
	Disturbance and displacement (including barrier effects) [3]		None	No change	No AESI
	Changes in prey availability [2]		None	No change	No AESI
	Introduction or spread of INNS [2]	See high level assessment in Section 3.1 .			No AESI

Table 3.146: In-combination assessment of adverse effects on site integrity for Irish Sea Front SPA

Impact	Phase	SCI (s)	Area	In-combination assessment
Direct effects on habitat	Construction	Manx shearwater	Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP Project. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.145.</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
Disturbance and displacement	O&M		Array site	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during breeding, migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 project direct effects are spatially limited, the Tier 1 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and / or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The footprint of direct effects on ex situ habitat arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. The project footprints are therefore considered similarly negligible when combined with CWP. This is on the basis that the Tier 1 and Tier 2 project direct effects are spatially limited, the Tier 1 and Tier 2 developments must comply with all applicable planning and environmental approval requirements and be in accordance with the relevant Development Plan and/or relevant planning framework such as the NMPF, and on the basis that where detailed assessments for Tier 1 and Tier 2a and 2b projects are available for the specific SPA the projects within Tier 1 and Tier 2 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of direct effects on habitat of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during operation and maintenance with regard to SCI Conservation Objectives stated in Table 3.145.</p>
	Construction		Array site	<p>For the SCI, as the separation distance between the array site and this SPA (68.96 km) is greater than the maximum distance at which individuals within the SPA may experience disturbance effects, disturbance and displacement in the form of ex situ indirect habitat loss around WTGs as they are installed, and construction phase activities within the array site will not adversely affect the spatial distribution of the SCI or their supporting habitats within the SPA (Section 4.38 of Volume 5 Part 2). Barrier effects are also determined to be negligible for the SCI, and will similarly not impact on the conservation objects, attributes and targets of the SCI.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.38) in Volume 5 Part 2. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.145.</p>
	O&M		Array site	<p>For the SCI, as the separation distance between the array site and this SPA (68.96 km) is greater than the maximum distance at which individuals within the SPA may experience disturbance effects, disturbance and displacement in the form of ex situ indirect habitat loss around installed WTGs, and operation and maintenance phase activities within the array site will not adversely affect the spatial distribution of the SCI or their supporting habitats within the SPA (Section 4.38 of Volume 5 Part 2). Barrier effects are also determined to be negligible for all SCIs, and will similarly not impact on the conservation objects, attributes and targets of the SCI (Section 4.38 of Volume 5 Part 2).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>For each and all of the projects listed in screened in for the in-combination assessment, the disturbance and displacement impacts during construction have been assessed for each of the source SPAs (as described in Volume 5 Part 2, Section 4.38) in Volume 5 Part 2. Consequently, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of disturbance and displacement from operation and maintenance phase activities with regard to SCI Conservation Objectives stated in Table 3.145.</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
Changes in prey availability	Construction		Array site	Project-only changes in prey availability impacts to SCIs of Irish Sea Front SPA arising from construction phase activities within the array site on an ex situ basis are assessed to be negligible on account of the separation distance between the array site and the SPA (68.96 km) (Volume 5 Part 2, Section 4.38). This negligible project-only contribution to in-combination changes in prey availability impacts to the SCI of the Irish Sea Front SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI as a result of changes in prey availability impacts from construction phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.145 .
			OECC	<p>Project-only changes in prey availability impacts to SCIs of Irish Sea Front SPA arising from construction phase activities within the OECC on an ex situ basis are assessed to be spatially and temporally extremely limited. Suspended sediment plumes created during construction operations within the OECC are predicted to enhance SSC levels over up to 7 km, well short of the minimum separation of 73.522 km between the Irish Sea Front SPA and the OECC. Any very small areas benthic habitat within the OECC which may serve as supporting nursery habitats for key prey species for seabirds within the SPA which may be altered or removed during construction phase activities within the OECC will not affect prey availability to the SCIs of Irish Sea Front SPA.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>This negligible project-only contribution to in-combination changes in prey availability impacts to the SCI of the Irish Sea Front SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from construction phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.145.</p>
	O&M		Array site	Project-only changes in prey availability impacts to SCIs of Irish Sea Front SPA arising from operation and maintenance phase activities within the array site on an ex situ basis are assessed to be negligible on account of the separation distance between the array site and the SPA (68.96 km) (Volume 5 Part 2, Section 4.38). This negligible project-only contribution to in-combination changes in prey availability impacts to this SCI of Irish Sea Front SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from operation and maintenance phase activities within the array site with regard to SCI Conservation Objectives stated in Table 3.145 .
			OECC	<p>Project-only changes in prey availability impacts to SCIs of Irish Sea Front SPA arising from operation and maintenance phase activities on an ex situ basis within the OECC are assessed to be negligible on account of the separation distance between the OECC and the SPA (73.522 km) (Volume 5 Part 2, Section 4.38).</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>This negligible project-only contribution to in-combination changes in prey availability impacts to the SCI of the Irish Sea Front SPA cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential. As such, there is assessed to be no in-combination AESI with the projects listed in as a result of changes in prey availability impacts from operation and maintenance phase activities within the OECC with regard to SCI Conservation Objectives stated in Table 3.145.</p>

Non-breeding wader or wildfowl SPAs

3.41 Distant SPAs designated in relation to migratory wildfowl and waders

407. Thirty-three distant non-overlapping SPAs (**NIS Volume 5 Part 2, Section 4.39**) are designated in relation to SCIs which have been screened in for consideration within the NIS: bar-tailed godwit, Bewick's swan, black-tailed godwit, coot, curlew, dunlin, gadwall, golden plover, Greenland white-fronted goose, grey heron, grey plover, greylag goose, knot, lapwing, light-bellied brent goose, little grebe, mallard, oystercatcher, pintail, purple sandpiper, redshank, ringed plover, sanderling, shelduck, shoveler, teal, tufted duck, turnstone, whooper swan, wigeon and wintering wader and / or wildfowl assemblage. The Conservation Objectives of these SPAs are provided in **Table 3.147**. The in-combination assessment of AESI is provided in **Table 3.148**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.147: Conservation objectives, attributes and targets of wader and waterfowl SCIs of non-overlapping SPAs

Conservation objectives reference	SPA(s)	SCI(s)	Conservation objective	Attribute	Target
GEN	Skerries Islands SPA Cahore Marshes SPA Lady's Island Lake SPA Tachumshin Lake SPA Poulaphouca Reservoir SPA Lambay Island SPA	All	To maintain or restore the favourable conservation condition of the SCI(s)	Population dynamics data on the SCI indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats.	
				The natural range of the SCI is neither being reduced, nor is likely to be reduced for the foreseeable future.	
				There is, and will probably continue to be, a sufficiently large habitat to maintain the SCIs' populations on a long-term basis.	
SS1 – SS19	Dundalk Bay SPA Boyne Estuary SPA River Nanny Estuary and Shore SPA Rockabill SPA Rogerstown Estuary SPA Baldoyle Bay SPA Malahide Estuary SPA The Raven SPA Wexford Harbour and Slobbs SPA Ballyteige Burrow SPA Bannow Bay SPA Tramore Back Strand SPA Dungarvan Harbour SPA Blackwater Estuary SPA Ballymacoda Bay SPA Ballycotton Bay SPA Cork Harbour SPA Courtmacsherry Bay SPA Clonakilty Bay SPA	All	To maintain the favourable conservation condition of the SCI in the SPA	Population trend	Long-term population trend stable or increasing
				Distribution	No significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation
NI	Strangford Lough SPA Outer Ards SPA Carlingford Lough SPA Killough Bay SPA	All	To maintain the favourable conservation condition of the SCI in the SPA	Population of the qualifying species	Maintain or enhance
				Supporting habitats	Maintain or enhance
				Site integrity	Maintain

Conservation objectives reference	SPA(s)	SCI(s)	Conservation objective	Attribute	Target
	Larne Lough SPA Lough Neagh and Lough Beg SPA Upper Lough Erne SPA Lough Foyle SPA			Disturbance	Ensure no significant disturbance to qualifying feature
				Distribution of the species within site	Maintain in the long-term

Table 3.148: In-combination assessment of adverse effects on site integrity for non-overlapping SPAs with migratory wildfowl and / or wader SCIs

Impact	Phase	SCIs	Area	In-combination assessment
Direct effects on habitat	Construction	All SCIs of all SPAs in Section 4.42 of Volume 5 Part 2	OECC intertidal landfall	<p>The ex situ effects on habitat from construction phase activities within this area will result in very limited impacts on these SPA SCIs. As the spatial extent of impacts will be small at any given moment in time during construction phase activities in comparison to the available habitat, and given the rate of recoverability of available habitat following backfilling and removal of supporting infrastructure and/or vehicles,</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets (Table 3.2). Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.147.</p>
	O&M		OECC intertidal landfall	<p>The ex situ effects on habitat from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. As the spatial extent of impacts will be small at any given moment in time during operation and maintenance phase activities in comparison to the available habitat, and given the rate of recoverability of available habitat following backfilling and removal of supporting infrastructure and/or vehicles,</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets (Table 3.2). Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.147.</p>
Disturbance and displacement	Construction		Array site	<p>Ex situ disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, through reference to the Conservation Objectives, attributes and targets (Table 3.1). Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for</p>

Impact	Phase	SCIs	Area	In-combination assessment
				<p>Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects o within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.147.</p>
			OECC intertidal landfall	<p>The ex situ effects from disturbance and displacement from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.147.</p>
	O&M		Array site	<p>Ex situ disturbance and displacement effects within the array site are limited to barrier effects, whereby migratory species may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, through reference to the Conservation Objectives, attributes and targets (Table 3.1). Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects o within the array site during construction with regard to SCI Conservation Objectives stated in Table 3.147.</p>
			OECC intertidal landfall	<p>The ex situ effects from disturbance and displacement from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities</p>

Impact	Phase	SCIs	Area	In-combination assessment
				<p>within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.147.</p>
Changes in prey availability	Construction		OECC intertidal landfall	<p>The ex situ effects from changes in prey availability from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Given the high rate of recoverability of the impacted habitat (and associated organisms) and the temporary nature of trenching activities, This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the intertidal landfall area during construction with regard to SCI Conservation Objectives stated in Table 3.147.</p>
	O&M		OECC intertidal landfall	<p>The ex situ effects from changes in prey availability from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the high rate of recoverability of the impacted habitat (and associated organisms) and the temporary nature of trenching activities, this allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives stated in Table 3.147.</p>
Collision	O&M		Array site	<p>Project-only collision impacts to these SCIs are assessed to be negligible on the basis that estimated collision mortalities were very low. The risk of collision to migratory wildfowl and wader SCIs is considered to be negligible when project-only impacts are considered, primarily due to the likelihood that such species will tend to fly around, rather than through, the operational array site (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. As assessed in Volume 5, the proposed CWP Project will not adversely affect the integrity of any European site in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Collision mortality estimates from projects listed in are not available or provided. However, it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives stated in Table 3.147.</p>

Non-breeding seabird SPAs

3.42 Distant SPAs designated in relation to non-breeding seabirds

408. Thirteen distant non-overlapping SPAs **NIS Volume 5 Part 2, Section 4.41**) are designated in relation to SCIs which have been screened in for consideration within the NIS: lesser black-backed gull, Mediterranean gull, common scoter, black-headed gull, red-breasted merganser, herring gull, common gull, great crested grebe, goldeneye, red-throated diver, cormorant, scaup and little gull. The Conservation Objectives of these SPAs are provided in **NIS Volume 5 Part 2, Section 4.41**. The in-combination assessment of AESI is provided in **Table 3.149**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.149: In-combination assessment of adverse effects on site integrity for non-overlapping SPAs with non-breeding seabird SCIs

Impact	Phase	SCI (s)	Area	In-combination assessment
Direct effects on habitat	Construction	All SCIs of all SPAs in Volume 5 Part 2; Section 4.41	Array site	<p>Project-only construction phase direct effects on ex situ habitat impacts within the array site represent a negligible proportion of seabird SCI habitat use areas during migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during construction with regard to SCI ConservationObjectives.</p>
			OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the intertidal landfall area on an ex situ basis represent a negligible proportion of intertidal habitat areas available for use during migration and / or wintering periods. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to SCIs under normal operation. Occasional maintenance actions may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however the physical area of intertidal habitat affected by activities is considered to be negligible relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
	O&M		Array site	<p>Project-only construction phase direct effects on habitat impacts within the array site on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas operation and maintenance migration and / or wintering periods. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				<p>considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the array site during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
			OECC	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the OECC on an ex situ basis represent a negligible proportion of seabird SCI habitat use areas during migration and/ / or wintering periods. Transmission infrastructure within the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to seabird SCIs under normal operation. Occasional maintenance activities may require some vessel activity within the OECC during this phase of the project, however the physical area of sea surface occupied by vessels during such activities is considered to be negligible relative to the habitat areas available to seabird SCIs. The footprints of direct effects on ex situ habitat arising within the cable corridors of other projects screened in to in-combination assessment (generally operational or decommissioning impacts of Tier 1 projects and operational impacts of Tier 2 projects) are considered similarly negligible in this regard. The in-combination total direct effects on habitat footprints of project-only with all other projects screened in to in-combination assessment is therefore considered to be negligible in relation to seabird habitat use extents. Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the OECC with regard to SCI Conservation Objectives.</p>
			OECC intertidal landfall	<p>Project-only operation and maintenance phase direct effects on habitat impacts within the intertidal landfall area on an ex situ basis represent a negligible proportion of intertidal habitat areas available for use during migration and / or wintering periods. Transmission infrastructure within the intertidal segment of the OECC is buried and passive during the operation and maintenance phase of the project, and as such presents no physical footprint of habitat loss to intertidal waterbird SCIs under normal operation. Occasional maintenance actions may require some activities which disrupt the intertidal habitat along the buried infrastructure during this phase of the project, however the physical area of intertidal habitat affected by activities is considered to be negligible relative to the habitat areas available to seabird SCIs. Furthermore, the rate of recoverability of intertidal habitats following any maintenance excavations is considered to be high, lasting several tidal cycles.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Direct effects on habitat impact footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of direct effects on habitat within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
Disturbance and displacement	Construction	Common scoter, red-throated diver and little gull	Array site	<p>The ex situ effects from disturbance and displacement from construction phase activities within this area will result in very limited impacts on these SPA SCIs. In relation to migratory movements or between site movements during the non-breeding period, one-off energetic costs associated with relatively small deviations (such as travelling around the array site, rather than straight through) during these typically large and infrequent movements are considered to be inconsequential in relation to energy reserves recruited (Masden et al., 2009). For all these non-breeding seabird SCIs, potential barrier effects regarding erected array site infrastructure are therefore considered negligible.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the array area during construction with regard to SCI Conservation Objectives.</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
		Common scoter, red-throated diver, little gull, red-breasted merganser, great crested grebe, goldeneye, cormorant and scaup	OECC	<p>The ex situ effects from disturbance and displacement from construction phase activities within this area will result in very limited impacts on these SPA SCIs. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the OECC during construction with regard to SCI Conservation Objectives.</p>
		Lesser black-backed gull, herring gull, black-headed gull, common gull Mediterranean gull, little gull, common scoter, red-breasted merganser, great crested grebe, red-throated diver and cormorant	OECC intertidal landfall	<p>The ex situ effects from disturbance and displacement from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during construction with regard to SCI Conservation Objectives.</p>
	O&M	Common scoter, red-throated diver and little gull	Array site	<p>The ex situ effects from disturbance and displacement from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. In relation to migratory movements or between site movements during the non-breeding period, one-off energetic costs associated with relatively small deviations (such as travelling around the array site, rather than straight through) during these typically large and infrequent movements are considered to be inconsequential in relation to energy reserves recruited (Masden et al., 2009). For all these non-breeding seabird SCIs, potential barrier effects regarding erected array site infrastructure are therefore considered negligible.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the array site during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
		Common scoter, red-throated diver, little gull, red-breasted merganser, great crested grebe, goldeneye, cormorant and scaup	OECC	<p>The ex situ effects from disturbance and displacement from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				<p>alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the OECC during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
		<p>Lesser black-backed gull, herring gull, black-headed gull, common gull Mediterranean gull, little gull, common scoter, red-breasted merganser, great crested grebe, red-throated diver and cormorant</p>	OECC intertidal landfall	<p>The ex situ effects from disturbance and displacement from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the limited potential connectivity between with construction phase activities within South Dublin Bay, it is considered that the numbers of individuals experiencing potential disturbance from construction phase activities within South Dublin Bay which also utilise these SPAs are low, or zero, for all wildfowl and wader species which are SCIs of these SPAs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Disturbance and displacement footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
Changes in prey availability	Construction	All SCIs of all SPAs in Section 4.41 of Volume 5 Part 2.	Array site	<p>The ex situ effects from changes in prey availability from construction phase activities within this area will result in very limited impacts on these SPA SCIs. Underwater noise may impact on prey species of the SCIs but this is predicted to not have any impacts on the SCI populations or any of the Conservation Objectives, attributes and targets.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site during construction with regard to SCI Conservation Objectives.</p>
			OECC	<p>Project-only changes in prey availability impacts to non-breeding seabird SCIs of non-overlapping non-breeding seabird SPAs arising from construction phase activities within the OECC on an ex situ basis are assessed to be spatially and temporally extremely limited. Suspended sediment plumes created during construction operations within the OECC are predicted to impact only very small areas of benthic habitat within the OECC which may serve as supporting nursery habitats for key prey species for these SCIs.</p> <p>This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the OECC during the construction phase with regard to SCI Conservation Objectives.</p>
			OECC intertidal landfall	<p>The ex situ effects from changes in prey availability from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the high rate of recoverability of the impacted habitat (and associated organisms) and the temporary nature of trenching activities, this allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the</p>

Impact	Phase	SCI (s)	Area	In-combination assessment
				<p>project in isolation, in relation to the Conservation Objectives, attributes and. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.2) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
	O&M		Array site OECC	<p>The ex situ effects from changes in prey availability from operation and maintenance phase activities within the array site and OECC area for SCIs from these distant SPAs represent a negligible impact given the proportion of this area compared to the sea area used by those SCIs. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, in relation to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (Table 3.1) are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the array site and OECC during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
			OECC intertidal landfall	<p>The ex situ effects from changes in prey availability from operation and maintenance phase activities within this area will result in very limited impacts on these SPA SCIs. Given the high rate of recoverability of the impacted habitat (and associated organisms) and the temporary nature of trenching activities. This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Changes in prey availability footprints of intertidal works of other projects screened in to in-combination assessment (are considered similarly negligible in this regard. The in-combination total project-only direct effects on habitat footprints, when considered alongside all other projects screened in to the in-combination assessment, is therefore considered to be negligible in relation to intertidal waterbird habitat use extents.</p> <p>Consequently, there is assessed to be no in-combination AESI as a result of changes in prey availability within the intertidal landfall area during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>

Terrestrial migrant SPAs

3.43 SPAs designated in relation to non-seabird and non-wildfowl or wader migrants

409. Twenty-three distant non-overlapping SPAs (**NIS Volume 5 Part 2, Section 4.42**) are designated in relation to SCIs which have been screened in for consideration within the NIS: corncrake, hen harrier and merlin. The Conservation Objectives of these SPAs are provided in **NIS Volume 5 Part 2, Section 4.42**. The in-combination assessment of AESI is provided in **Table 3.150**. All effects assessed, including direct effects, are ex situ and considered in the context of the wider natural range and supporting habitats.

Table 3.150: In-combination assessment of adverse effects on site integrity for non-overlapping SPAs terrestrial migrant SCIs

Impact	Phase	SCI (s)	Area	In-combination assessment
Disturbance and displacement (barrier effects only)	Construction	All SCIs of all SPAs in Section 4.42 of Volume 5 Part 2 .	Array site	<p>Disturbance and displacement effects within the array site are limited to barrier effects, whereby these SCIs may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, through reference to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects o within the array site during construction with regard to SCI Conservation Objectives.</p>
	O&M			<p>Disturbance and displacement effects within the array site are limited to barrier effects, whereby these SCIs may deviate their migratory routes due to the present of array site infrastructure. Additional energetic expenditure by migratory species associated with relatively small deviations (such as travelling around the array site, rather than straight through) during migration are considered to have inconsequential effects on the additional reserves recruited by these species for typically large migration movements (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, through reference to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>Barrier effects arising from other (Tier 1) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from Tier 1 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>Barrier effects arising from other (Tier 1, Tier 2a and Tier 2b) projects screened in to in-combination assessment (Table 3.1) are predicted within the respective EIAs and Natura assessments to be negligible, with mitigation measures proposed to minimise effects and avoid adverse effects on integrity where relevant. Barrier effects are therefore considered similarly negligible when combined with CWP Project. This is on the basis that additional energetic expenditure arising from barrier effects from the Tier 1 and Tier 2 projects will also be inconsequential for these large migration movements (Masden et al., 2009), and on the basis that where detailed</p>



Impact	Phase	SCI (s)	Area	In-combination assessment
				<p>assessments for Tier 1 projects are available for the specific SPA the projects within Tier 1 have similarly concluded no adverse effect on the integrity of the European site.</p> <p>The in-combination total footprint of barrier effects of project only with all other projects screened in to in-combination assessment is therefore considered to be negligible. Consequently, there is assessed to be no in-combination AESI as a result of disturbance and displacement effects o within the array site during the operation and maintenance phase with regard to SCI Conservation Objectives.</p>
Collision	O&M			<p>Project-only collision impacts to these SCIs are assessed to be negligible on the basis that estimated collision mortalities were very low. The risk of collision to these SCIs is considered to be negligible when project-only impacts are considered, primarily due to the likelihood that such species will tend to fly around, rather than through, the operational array site (Masden et al., 2009). This allows a conclusion to be drawn of no adverse effect on the integrity of this SPA from the project in isolation, through reference to the Conservation Objectives, attributes and targets. Therefore, the potential for in combination effects to arise are limited to those effects the proposed CWP Project will have on the receiving environment that are measurable in some way, but themselves will not affect the Conservation Objectives of this SPA.</p> <p>In the considering the collision mortality estimates from projects listed in Table 3.1, these are not available or provided; however it is considered that the negligible project-only contribution to in-combination collision impacts to these SCIs cannot contribute to AESI in any meaningful way, as impacts are so small as to be inconsequential.</p> <p>As such, in consideration of Tier 1 and Tier 2 projects, there is assessed to be no in-combination AESI as a result of collision impacts with regard to SCI Conservation Objectives.</p>

4 NIS CONCLUSION

410. The purpose of this document, which will accompany the application for development of the CWP Project, was to inform the AA process in determining whether the CWP Project would adversely affect the integrity of any European sites.
411. The AA Screening Report (**Volume 3**) concluded that likely significant effects (LSE) could not be ruled out for the following European sites, as a result of the CWP Project alone (without mitigation):
- Aberdaron Coast & Bardsey Island SPA [UK9013121];
 - Afon Teifi / River Teifi SAC [UK0012670];
 - Afon Tywi / River Tywi SAC [UK0013010];
 - Afonydd Cleddau / Cleddau Rivers SAC [UK0030074];
 - Ailsa Craig SPA [UK9003091];
 - Baie de Saint-Brieuc - Est SAC [FR5300066];
 - Baie de Seine occidentale SAC [FR2502020];
 - Baie de Seine orientale SAC [FR2502021];
 - Baie du Mont Saint-Michel SAC [FR2500077];
 - Baldoyle Bay SPA [IE004016];
 - Bassin de l'Airou SAC [FR2500113];
 - Blackwater River (Cork / Waterford) SAC [IE0002170];
 - Blasket Islands SAC [IE002172];
 - Blasket Islands SPA [IE004008];
 - Bristol Channel Approaches SAC [UK0030396];
 - Cardigan Bay SAC [UK0012712];
 - Cardigan Bay / Bae Ceredigion SAC [UK0012712];
 - Carmarthen Bay and Estuaries / Bae Caerfyrddin ac Aberoedd SAC [UK0020020];
 - Castlemaine Harbour SAC [IE0000343];
 - Copeland Islands SPA [UK9020291];
 - Cte de Granit rose-Sept-Iles SAC [FR5300009];
 - Cummeen Strand / Drumcliff Bay (Sligo Bay) SAC [IE0000627];
 - Dalkey Islands SPA [IE004172];
 - Dee Estuary / Aber Dyfrdwy SAC [UK0030131];
 - Deenish Island and Scariff Island SPA [IE004175];
 - Duvillaun Islands SAC [IE000495];
 - Estuaire de la Loire SAC [FR5200621];
 - Estuaire de la Loire Nord SAC [FR5202011];
 - Estuaire de la Loire Sud - Baie de Bourgneuf SAC [FR5202012];
 - Estuaire de la Rance SAC [FR5300061];
 - Estuaire de la Vilaine SAC [FR5300034];
 - Golfe du Morbihan, côte ouest de Rhuys SAC [FR5300029];
 - Grassholm SPA [UK9014041];
 - Havre de Saint-Germain-sur-Ay et Landes de Lessay SAC [FR2500081];
 - Howth Head Coast SPA [IE004113];
 - Ireland's Eye SPA [IE004117];
 - Killala Bay / Moy Estuary SAC [IE0000458];
 - Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC [IE0000365];
 - Lac de Grand-Lieu SAC [FR5200625];
 - Lambay Island SAC [IE000204];
 - Lambay Island SPA [IE004069];
 - Littoral Ouest du Cotentin de Brhal Pirou SAC [FR2500080];
 - Llyn Peninsula and the Sarnau SAC [UK0013117];
 - Lough Corrib SAC [IE0000297];

- Lough Gill SAC [IE0001976];
- Lower River Shannon SAC [IE0002165];
- Lower River Suir SAC [IE0002137];
- Malahide Estuary SPA [IE004025];
- Marais de Vilaine SAC [FR5300002];
- Marais du Cotentin et du Bessin - Baie des Veys SAC [FR2500088];
- Mingulay and Berneray SPA [UK9001341];
- Moray Firth SAC [UK0019808];
- Nord Bretagne DH ZSC SAC [FR2502022];
- North Anglesey Marine SAC [UK0030398];
- North Bull Island SPA [IE004006];
- North Channel SAC [UK0030399];
- North Dublin Bay SAC [IE000206];
- Ouessant-Molène ZSC SAC [FR5300018];
- Pembrokeshire Marine / Sir Benfro Forol SAC [UK0013116];
- Pertuis Charentais SAC [FR5400469];
- Plymouth Sound and Estuaries SAC [UK0013111];
- Puffin Island SPA [IE004003];
- Rade de Brest, estuaire de l'Aulne SAC [FR5300046];
- Ria d'Etel SAC [FR5300028];
- River Avon SAC [UK0013016];
- River Axe SAC [UK0030248];
- River Barrow and River Nore SAC [IE0002162];
- River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid SAC [UK0030252];
- River Derwent and Bassenthwaite Lake SAC [UK0030032];
- River Eden SAC [UK0012643];
- River Moy SAC [IE0002298];
- River Usk / Afon Wysg SAC [UK0013007];
- River Wye / Afon Gwy SAC [UK0012642];
- Rivire Elle SAC [FR5300006];
- Rivire Elorn SAC [FR5300024];
- Rivire Lata, Pointe du Talud, tangs du Loc'h et de Lannec SAC [FR5300059];
- Rivire le Douron SAC [FR5300004];
- Rivire Leguer, forts de Beffou, Coat an Noz et Coat an Hay SAC [FR5300008];
- Rivire Scorff, Fort de Pont Calleck, Rivire Sarre SAC [FR5300026];
- Roaringwater Bay and Islands SAC [IE000101];
- Rockabill SPA [IE004014];
- Rockabill to Dalkey Island SAC [IE003000];
- Rum SPA [UK9001341];
- Saltee Islands SAC [IE000707];
- Saltee Islands SPA [IE004002];
- Severn Estuary / Môr Hafren SAC [UK0013030];
- Skelligs SPA [IE004007];
- Skerries Islands SPA [IE004122];
- Skomer, Skokholm and Seas off Pembrokeshire SPA [UK9014051];
- Slaney River Valley SAC [IE0000781];
- Slyne Head Islands SAC [IE000328];
- Slyne Head Peninsula SAC [IE002074];
- Solway Firth SAC [UK0013025];
- South Dublin Bay SAC [IE000210];
- South Dublin Bay and River Tolka Estuary SPA [IE004024];
- The Murrough SPA [IE0004186];
- Tregor Golo SAC [FR5300010];
- Valle de la Se SAC [FR2500110];

- Valle de l'Arz SAC [FR5300058];
- Valle de l'Aulne SAC [FR5300041];
- West Connacht Coast SAC [IE002998];
- West Wales Marine SAC [UK0030397];
- Wicklow Head SPA [IE004127];
- Wicklow Mountains SPA [IE004040]; and
- Wicklow Reef SAC [IE002274].

412. For all remaining European sites, no LSE from the CWP Project alone were concluded, whether alone or in combination with other plans and projects. Therefore, assessment of the above sites was progressed to Stage 2, NIS.
413. The Stage 2, NIS concluded that following the application of suitable mitigation where required, the CWP Project, either alone or in combination with other plans or projects, would not have an adverse effect on the integrity of any European site.

5 REFERENCES

414. APEM Ltd. (2022). Volume 2, Chapter 4: Offshore Ornithology. RWE.
415. Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Environment, Heritage and Local Government (2009 - Revised February 2010).
416. Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/ / 43/ / EEC.
417. Burnell, D., Perkins, A.J., Newton, S.F., Bolton, M., Tierney, T.D. & Dunn, T.E. (2023). Seabirds count: a census of breeding seabirds in Britain and Ireland (2015–2021). Lynx Nature Books, Barcelona.
418. CIEEM (2018). The Guidelines for Ecological Impact Assessment in the UK and Ireland.
419. Circular NPW 1/ / 10 & PSSP 2/ / 10 (March 2010).
420. Cook, A.S.C.P. and Robinson, R.A. (2016). Testing sensitivity of metrics of seabird population response to offshore wind farm effects, JNCC Report No. 553.
421. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland. EU Guidance document on Article 6(4) of the 'Habitats Directive' 92/ / 43/ / EEC (2007).
422. European Commission. (Nov. 2001 – published 2002).
423. Fliessbach, K.L., Borkenhagen, K., Guse, N., Markones, N., Schwemmer, P. and Garthe, S. (2019). A ship traffic disturbance vulnerability index for Northwest European Seabirds as a tool for marine spatial planning. *Frontiers in Marine Science*, 6, 1–15.
424. Green, A.J., Soons, M., Brochet, A.L. and Kleyheeg, E. (2016). Dispersal of plants by waterbirds. In: Sekercioglu CH, Wenny DG, Whelan, CJ (eds) *Why birds matter: avian ecological functions and ecosystem services*. University of Chicago Press, Chicago (in press).
425. Horswill, C. and Robinson, R.A. (2015). Review of Seabird Demographic Rates and Density Dependence. JNCC Report No. 552.
426. Horswill, C., O'Brien, S.H. and Robinson, R.A. (2017). Density dependence and marine bird populations: are wind farm assessments precautionary? *Journal of Applied Ecology*, 54(5), 1406–1414.
427. Jitlal, M., Burthe, S., Freeman, S. and Daunt, F. (2017). Testing and validating metrics of change produced by Population Viability Analysis (PVA) (Ref CR/2014/16).
428. Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/ / 43/ / EEC (2000).
429. Masden, E. A., Haydon, D. T., Fox, A. D., Furness, R. W., Bullman, R., and Desholm, M. (2009). Barriers to movement: impacts of wind farms on migrating birds. – *ICES Journal of Marine Science*, 66, 746–753.
430. Newton, I., McGrady, M.J., & Oli, M.K. (2016). A review of survival estimates for raptors and owls. *Ibis* 1.
431. Ruffino L., Thompson, D. and O'Brien, S. (2020). Black-legged kittiwake population dynamics and wider drivers of population change in the context of offshore wind development, JNCC Report No. 651, JNCC, Peterborough, ISSN 0963-8091.
432. UK SNCBs. (2022). Joint SNCB Interim Displacement Advice Note.
433. 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, Report of work carried out by the British Trust for Ornithology on behalf of NIRAS and The Crown Estate, ISBN 978-1-912642-12-0.