

# Outer Dowsing Offshore Wind

## Part 7, Document 7.3: Without Prejudice Ornithology Compensation Strategy

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## Abbreviations

Acronym	Expanded name
ACAP	Agreement on the Conservation of Albatrosses and Petrels
BEIS	Business, Energy and Industrial Strategy (now the Department for Energy Security and Net Zero (DESNZ))
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CIMP	Compensation Implementation and Monitoring Plan
COWSC	Collaboration on Offshore Wind Strategic Compensation
DAS	Digital Aerial Survey
DCO	Development Consent Order
DESNZ	Department for Energy Security and Net Zero, formerly Department of Business, Energy and Industrial Strategy (BEIS), which was previously Department of Energy & Climate Change (DECC)
EEZ	European Economic Zone
EPP	Evidence Plan Process
EU	European Union
FFC	Flamborough and Filey Coast
GT R4 Ltd	The Applicant. The special project vehicle created in partnership between Corio Generation (a wholly owned Green Investment Group portfolio company), Gulf Energy Development and TotalEnergies
HPAI	highly pathogenic avian influenza
HRA	Habitats Regulations Assessments
ICES	International Council for the Exploration of the Sea
IFCA	Inshore Fisheries and Conservation Authority
JNCC	Joint Nature Conservation Committee
KSCP	Kittiwake Strategic Compensation Plan
LEB	Looming Eye Buoy
LED	Light-emitting diode
MMO	Marine Management Organisation
MRF	Marine Recovery Fund
MPA	Marine Protected Area

NSIP	Nationally Significant Infrastructure Project
OoEG	Offshore Ornithology Engagement Group
OWF	Offshore Wind Farm
OWIC	Offshore Wind Industry Council
PEIR	Preliminary Environmental Information Report
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society of the Protection of Birds
SBWG	Seabird Bycatch Working Group
SNCB	Statutory Nature Conservation Body
SoS	Secretary of State
SPA	Special Protection Area
UV	Ultraviolet

## Terminology

Term	Definition
Array area	The area offshore within the PEIR Boundary within which the generating stations (including wind turbine generators (WTG) and inter array cables), offshore accommodation platforms, offshore transformer substations and associated cabling are positioned.
Baseline	The status of the environment at the time of assessment without the development in place.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP) from the Secretary of State (SoS) for Department for Energy Security and Net Zero (DESNZ).
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of an impact with the sensitivity of a receptor, in accordance with defined significance criteria.
Impact	An impact to the receiving environment is defined as any change to its baseline condition, either adverse or beneficial.
Landfall	The location at the land-sea interface where the offshore export cable will come ashore.
Mitigation	Mitigation measures, or commitments, are commitments made by the Project to reduce and/or eliminate the potential for significant effects to arise as a result of the Project. Mitigation measures can be embedded (part of the project design) or secondarily added to reduce impacts in the case of potentially significant effects.
Outer Dowsing Offshore Wind	The Project.
Onshore Infrastructure	The combined name for all onshore infrastructure associated with the Project from landfall to grid connection.
The Applicant	GT R4 Ltd. The Applicant making the application for a DCO.

Term	Definition
	The Applicant is GT R4 Limited (a joint venture between Corio Generation, TotalEnergies and Gulf Energy Development (GULF)), trading as Outer Dowsing Offshore Wind. The project is being developed by Corio Generation (a wholly owned Green Investment Group portfolio company), TotalEnergies and GULF.
The Project	Outer Dowsing Offshore Wind including proposed onshore and offshore infrastructure.
Wind turbine generator (WTG)	All the components of a wind turbine, including the tower, nacelle, and rotor.

# 1 Introduction

- 1.1.1 GT R4 Limited (trading as Outer Dowsing Offshore Wind) hereafter referred to as the 'Applicant', is proposing to develop Outer Dowsing Offshore Wind (the Project). The Project will be located approximately 54km from the Lincolnshire coastline in the southern North Sea. The Project will include both offshore and onshore infrastructure including an offshore generating station (windfarm), export cables to landfall, onshore cables, and connection to the electricity transmission network, and ancillary and associated development (see Volume 1, Chapter 3: Project Description for full details).
- 1.1.2 As part of the Habitats Regulations Assessment (HRA) process, following the assessment of impacts, where it is concluded that despite mitigation, an adverse effect on the integrity (AEoI) of a designated site (Special Protection Areas (SPAs), Sites of Community Importance (SCIs) and Special Areas of Conservation (SACs); hereafter termed the 'National Site Network') cannot be excluded (beyond reasonable scientific doubt), projects can undergo a derogation process to gain approval, provided there are 'imperative reasons of overriding public interest' (IROPI) and any necessary compensatory measures are secured to ensure that the overall network coherence is protected. Defra have produced a compensation hierarchy which states that where possible compensatory measures should be designed to benefit the same feature at the impacted site (like-for-like) (Defra, 2021). Where this is not possible compensation can be carried out at other sites, provided that the same ecological function is being compensated for.
- 1.1.3 The Flamborough and Filey Coast (FFC) SPA is approximately 93km away from the Project array area, which is within the mean-max foraging range (MMF) of breeding kittiwake, gannet, guillemot and razorbill, and therefore there is potential connectivity between the SPA and the Project array during the breeding and non-breeding seasons. The main species considered in this document are:
- Black-legged kittiwake (*Rissa tridactyla*, hereafter kittiwake),
  - Northern gannet (*Morus bassanus*, hereafter gannet),
  - Common guillemot (*Uria aalge*, hereafter guillemot) and;
  - Razorbill (*Alca torda*, hereafter razorbill).
- 1.1.4 All four species are designated features at FFC SPA. Kittiwake and gannet are considered collision risk species due to their flight behaviour, whereas guillemot, razorbill and gannet are at risk of displacement from OWFs.

- 1.1.5 There has been concern raised by Natural England on recent offshore wind projects regarding the potential impacts on these features, indicating that at this stage an AEol could not be ruled out for kittiwake at FFC SPA when considered in-combination with other projects, even when the project alone impacts are low (Hornsea Project Three, Norfolk Boreas, Norfolk Vanguard, East Anglia ONE North and East Anglia TWO). More recent projects within the southern North Sea have provided derogation cases for kittiwake, along with guillemot, razorbill and gannet at application (e.g. Hornsea Project Four, Sheringham Shoal and Dudgeon Extension). In addition, it is noted that The Crown Estate concluded AEol in-combination to the FFC SPA for kittiwake for the Round Four Plan-Level HRA (which included the Project), noting that this conclusion was drawn without the benefit of any project-specific data on bird numbers and distribution. On the basis of the plan-level HRA analysis, The Crown Estate identified the requirement for derogation and associated compensatory measures for kittiwake (The Crown Estate, 2022).
- 1.1.6 An initial assessment of the Project's impact on these species is presented within the Draft RIAA (Document 7.1) and provides an estimated impact from the Project based on the first 18 months of digital aerial survey (DAS) data. Although the Draft RIAA in-combination assessment currently concludes no AEol for guillemot, razorbill and gannet, given the existing concerns around AEol for these species arising from other projects in the region, these species are also considered to be at risk of an AEol. Consequently, the Project is producing an 'without prejudice' derogation case for these species. In addition, there is the potential for the Secretary of State to disagree with the Project's assessment of impacts within the Draft Report to Inform Appropriate Assessment (RIAA), and therefore the Applicant has opted to give early consideration to the need for a 'without prejudice' derogation case.
- 1.1.7 The Draft RIAA provides some insight into the quantity of compensation that may be required for each species at Application, although this will be subject to change as further site-specific data is collected and fed into the relevant assessments. Given the ongoing data collection that feeds into the assessments, the shortlist of species and protected sites provided here may differ at the point of the Development Consent Order (DCO) Application, and this compensation strategy will be updated accordingly.
- 1.1.8 This document accompanies the draft RIAA (Part 7, Document 7.1) and describes and discusses the current position and future approach to compensation to offset any potential adverse impacts from the Project on seabird species. This strategy is provided on a 'without prejudice' basis. The purpose of this document is to present the results of the short-listing exercise for potential compensatory measures and to demonstrate the methodology and rationale used to select the proposed compensation measures presented for consultation. The following sections provide an overview of the compensation strategy and address the shortlisted measures for each of the four key species.



## 2 Approach

2.1.1 To allow for sufficient time to engage with stakeholders and develop robust compensation plans and evidence, the Project is investigating the feasibility of compensation options at this stage in the pre-application period, should they ultimately become a requirement. However, it should be noted that these workstreams are not intended to pre-judge the outcome of the ongoing HRA process and are provided on a 'without prejudice' basis.

### 2.2 Longlist

2.2.1 The first stages of the compensation strategy involved reviewing all offshore wind projects that have proposed compensation to date. A longlist was collated based on previous offshore windfarm (OWF) derogation cases (including compensation measures provided on a 'without prejudice' basis), guidance and advice from SNCBs, and a review of peer-reviewed literature. This focused primarily on projects that have submitted DCO applications within the southern North Sea region because these are located within the same geographic region as the Project and are likely to impact similar species and sites. Nevertheless, compensation considered elsewhere in the UK and global examples were also incorporated within the longlist where relevant. In addition, some more novel ideas, yet to be put forward by other projects were also included. The long list was drawn up of compensatory measures as appropriate to the species and habitats affected.

### 2.3 Shortlist Ranking System

2.3.1 From the longlist, each compensation option was evaluated using a set of criteria established from principles outlined by Defra (Defra, 2021), which have been consulted on with relevant stakeholders (Natural England and Royal Society for the Protection of Birds (RSPB)) through the Evidence Plan Process (EPP). Five ranking criteria were developed, which aimed to fairly rate each measure to produce a shortlist of the most viable options (Table 2.1). This provided a clear, replicable, and robust method to rank compensations options relative to each other.

2.3.2 Each rating criterion was scored on a scale between 1 and 5, (5 being the maximum). The scores were summed for all five criteria for each compensation measure to provide a final score, which was used to rank the measures. For each species, a shortlist of compensation options that scored greater than 15 out of a possible 25 are presented below.

### 2.4 Strategic Options

2.4.1 Consideration will also be given to the delivery of compensation through strategic measures. The Crown Estate is proposing to develop a library of ecologically robust strategic compensatory measures in partnership with industry and environmental stakeholders that are commercially feasible and deliverable (OWEC, 2022).

- 2.4.2 The Project understands that Natural England regard strategic compensation as highly ecologically effective and that it could provide a solution to species or habitats impacted by multiple windfarms. Furthermore, the recently published British Energy Security Strategy (BESS) commits to speeding up the deployment of offshore wind and the measures proposed in the Offshore Wind Environmental Improvement Package policy paper, including strategic compensatory measures and a centralised Marine Recovery Fund (MRF) aims to help facilitate delivery of those measures.
- 2.4.3 Other strategic initiatives include the development of measures led by organisations such as the Offshore Wind Industry Council (OWIC), for which the Project is a member of the Derogation Subgroup. In addition, measures that can be developed through collaboration between multiple projects or developers are also considered to be strategic options. Consideration as to whether measures could be delivered strategically is provided throughout the report. More detail on delivery mechanisms for strategic options is provided in Section 8.
- 2.4.4 Additionally, as part of the Round Four Plan-Level HRA derogation, the Project is actively engaged in The Crown Estate Kittiwake Strategic Compensation Plan (KSCP), which aims to oversee the development of strategic environmental compensation for kittiwake at FFC SPA.

Table 2.1: Criteria used to rank compensation options and scoring principles.

Rating	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact
<b>Definition</b>	Following the Hierarchy Approach (Defra, 2021). Measures should focus on objectives and targets the affected species National Site Network. They must clearly refer to the structural and functional aspects of the site integrity, and the related types of habitats and species populations that are affected. Higher scores given for like-for-like compensation - lower scores for non-like-for-like.	Confidence that the measure will deliver effective and sustainable compensation for the impact of the project.  Ensure the overall coherence of designated sites and the integrity of the protected site network is maintained.	The confidence in the measure can be delivered successfully and be monitored and managed accordingly.	How quickly compensatory measures are expected to be functioning and contributing to the network?	The scale at which the compensatory measure acts can be accurately predicted/quantified
<b>5</b>	Same species, same location. Measure can with certainty benefit birds at the same site (within, adjacent to, within usual foraging range of)	There is strong evidence that the measure is effective, provides a similar ecological function, and does not negatively impact any other sites or features	Technical delivery of measure is well evidenced and achievable without any substantial challenges and there is certainty in the outcomes	Agreed certainty that measures will be functioning before impact occurs with timeframe <2 years	Confident that the benefit can be accurately predicted and adapted to match the required compensation at a defined ratio

Rating	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact
<b>4</b>	Same species, with connectivity to SPA Measure can be utilised by affected species from the affected site	There is some evidence that the measure is effective and will provide a similar ecological function	Technical delivery is evidenced but some challenges with delivery and some uncertainty in the outcomes	Some certainty that measures will be functioning prior to impact occurring < 3 years	Some uncertainty in the predicted benefit but measure can be adapted to match the required compensation at a defined ratio
<b>3</b>	Same species, different location Measure can be reached by the same species from a designated SPA	There is strong evidence that the measure is effective but does not directly target the same feature or site	There is some evidence of delivery and some uncertainty regarding outcomes	Some certainty that measures will be functioning prior to impact occurring <5 years but would likely assume a higher compensation ratio to allow for uncertainty	Confident that the benefit can be accurately predicted but unlikely to compensate for the desired ratio
<b>2</b>	Same species, different location Measure can be reached by the species and is within the biogeographic region	There is some evidence that the measure is effective but does not directly target the same feature or site	Little to no evidence of delivery and considerable uncertainty in outcomes	Little to no certainty that measures will be functioning <10 years and would assume a higher compensation ratio to allow for uncertainty	Some uncertainty in the predicted benefit and unlikely to compensate at the desired ratio
<b>1</b>	Different species Measure compensates for a different species	There is little to no evidence that the measure is effective and there is considerable uncertainty in outcomes	No evidence of delivery and considerable uncertainty in outcomes	No certainty within 10-year timeframe and perhaps poorly evidenced and as such acceptance of higher ratio required	Large uncertainty in the predicted benefit and unlikely to compensate at the desired ratio

### 3 Kittiwake

3.1.1 It is considered that an AEoI cannot be ruled out for the kittiwake feature at the FFC SPA at this stage as a result of in-combination impacts. FFC SPA is the only SPA in England with kittiwakes as a qualifying feature and there are only three other sites where kittiwakes are an assemblage feature (Table 3.1).

Table 3.1: National Site Network SPAs in England with kittiwakes as a feature.

SPA	Kittiwake
Flamborough & Filey Coast	Qualifying feature
Farne Islands	Named assemblage feature
Coquet Island	Un-named component of the seabird assemblage
Isles of Scilly	Un-named component of the seabird assemblage

3.1.2 Other projects such as Hornsea Project Three Offshore Wind Farm (Hornsea Three), Hornsea Project Four Offshore Wind Farm (Hornsea Four), Norfolk Boreas, Norfolk Vanguard, Sheringham Shoal and Dudgeon Extension Projects, East Anglia One North and East Anglia Two are providing compensation for adverse effects on kittiwakes at FFC SPA. The primary compensation options identified for kittiwakes were:

- Offshore artificial nesting structures;
- Onshore artificial nesting structures;
- Urban deterrents;
- Reductions in fisheries quotas; and
- Purchase of fisheries quotas.

3.1.3 A detailed ranking and evaluation of shortlist options is provided in Table 3.2.

### 3.2 Offshore Artificial Nesting Structure

3.2.1 An offshore artificial nesting structure, providing additional nesting space to encourage the formation of a new offshore colony, was identified as the highest ranked compensation option for kittiwake. It scored four for each criterion and has the potential to be delivered strategically. Evidence of kittiwake nesting on offshore artificial structures is widespread across the North Sea in UK waters (e.g. Coulson, 2011; Christensen-Dalsgaard, 2019; Ørsted, 2021a). An offshore structure would preferably be located near to productive foraging grounds and away from the impacts of OWFs. In addition, Hornsea Four has put forward an offshore artificial nesting structure as compensation for kittiwake.

- 3.2.2 Offshore artificial nesting structures are considered a feasible compensation option for kittiwake both strategically and at a project level. Detailed information regarding the progress of this as a compensation measure, including ecological evidence and a roadmap to implementation is provided in Offshore Artificial Nesting Structures Ecological Evidence and Roadmap (Part 7, Document 7.3). This work also includes a preliminary site selection assessment and outlines design criteria for an artificial nesting structure for the target species.

### **3.3 Onshore Artificial Nesting Structure**

- 3.3.1 Onshore artificial nesting structures were ranked second in the rating process. Evidence of kittiwake nesting on onshore artificial structures is widespread (Hatch *et al.* 1993; Harris *et al.* 2019; Camphuysen & de Vreeze 2005; Camphuysen & Leopold 2007; Ponchon *et al.* 2017; Turner 2010). Consequently, there are several projects, including Hornsea Three, Norfolk Boreas, Norfolk Vanguard, East Anglia One North and East Anglia Two, that are required by their DCOs to build onshore artificial nesting to compensate for their impact on kittiwakes from FFC SPA. Although Hornsea Three have provided three nearshore structures as an alternative to onshore, the combined nesting space to be provided by these projects equates to roughly 2,500 nesting spaces (Ørsted, 2020; Royal HaskoningDHV, 2022). As such, there are currently thousands of nesting sites onshore or nearshore that require a pool of non-breeding adults available to colonise them. Consequently, Natural England have requested evidence that there is a sufficient pool of kittiwake recruits and suitable locations with adequate prey availability to maintain the new colonies (Natural England, 2022a). Natural England have also highlighted that further onshore artificial nesting may draw birds away from protected sites, such as FFC SPA, and, therefore, not provide compensation.
- 3.3.2 In addition, there are considerable challenges in the delivery of onshore structures. For example, difficulties obtaining land rights and planning permission has driven several of Hornsea Three's onshore artificial nesting structures into the nearshore environment, where there are fewer barriers to consent. As a result, the Project does not currently consider onshore artificial nesting structures to be a preferred compensatory measure.

### **3.4 Urban Deterrents**

- 3.4.1 Every year, many kittiwakes are caught in urban deterrent netting resulting in a considerable number of mortalities. The main driver of these mortalities is poorly maintained netting or inappropriate deterrents. By investing in less impactful alternatives (e.g. AviShock) or taking steps to improve the management of currently implemented deterrents, there is the potential for annual mortalities to be reduced.
- 3.4.2 The main options to reduce this source of bird mortalities is to provide funding to maintain deterrents or to upgrade to less invasive options. Ongoing discussions with stakeholders is required to determine the feasibility of this measure alongside further evidence gathering, including quantifying the current mortalities from deterrents.

### 3.5 Reduce Fisheries Quota/Purchase of Fishery Quota

- 3.5.1 Prey availability has been evidenced as a key limiting factor suppressing the breeding success of kittiwake and other seabird species (Mitchell *et al.*, 2020; Frederiksen *et al.*, 2004, Cury *et al.*, 2011, Carroll *et al.*, 2017, Christensen-Dalsgaard *et al.*, 2018). The Project consider a reduction in the sandeel fishing quota within the North Sea, or the ability for developers to purchase a proportion of the fishery quota, as viable measures to increase the availability of kittiwake prey. The most effective way this could be achieved would be to restrict fishing on sandeel, sprat or juvenile herring in UK waters. However, it is widely accepted that this measure would be most effectively delivered by Government on a strategic basis. For example, this would need to be implemented by either Defra in the case of sandeel or the relevant Inshore Fisheries and Conservation Authority (IFCA) in the case of sprat and juvenile herring fisheries within UK inshore waters. Due to the threat to species that rely on sandeel for food there is a Defra consultation underway (at the time of writing) on the spatial management of the industrial sandeel fishing in the North Sea (Defra, 2023).
- 3.5.2 Given the acknowledged potential for fisheries management to provide compensation at a scale greater than the currently estimated in-combination effect arising from offshore windfarms in the southern North Sea region for kittiwake and other species (McGregor *et al.*, 2022), prey enhancement measures could form a valuable part of the compensation proposals for the Project. Owing to the high degree of uncertainty over the security of the measure and long-term implementation, along with the lack of legal mechanism to allow a developer to implement fisheries closures, this measure is not being considered by the Project alone but is being taken forward as a potential strategic option.

Table 3.2: Shortlisted compensation measures for kittiwake.

Compensation Measure	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact	Potential to deliver at a strategic level?	Total
Offshore artificial nesting structures	4 Direct benefits to kittiwake and likely to have some connectivity to FFC SPA.	4 Reasonable amount of evidence that the measure is effective with some examples. Strong evidence that kittiwake are limited by lack of nesting structures in the southern North Sea. Numerous examples of artificial nesting structures being used by kittiwake. Smaller colonies away from large colonies (such as FFC SPA) are likely to have higher breeding success due to weaker density dependant competition for food resources. There is no guarantee that kittiwake will use the new structure for nesting.	4 Technical delivery is evidenced but some challenges with delivery and some uncertainty associated with the outcomes. However, onshore structure is well evidenced with numerous examples.	4 Offshore likely to be deliverable in short time frame (within 3) and therefore before anticipated impact.	4 Structure can be designed to compensate for the desired number of birds but some uncertainty in the numbers of kittiwake that will choose to nest there.	Yes	20
Onshore artificial nesting structures	3 Directly benefits the target species but unlikely to be near FFC SPA because there are already kittiwake onshore nesting structures nearby	4 Large amount of evidence that the measure is effective with various examples. Strong evidence that kittiwake are limited by nesting structures in the southern North Sea. Smaller colonies away from large colonies (such as FFC SPA) are likely to have higher breeding success due to weaker density dependant competition for food resources. There is no guarantee that kittiwake will use the new structure for nesting.	3 Technical delivery is well evidenced but due to existing structures in proximity to FFC SPA it is likely to be challenging both to find an appropriate location for a new nesting structure and to provide evidence that further onshore nesting structures are beneficial to the population. Therefore, there is uncertainty associated with the outcomes.	4 Onshore likely to be deliverable in short time frame (within 3) and therefore before anticipated impact.	4 Structure can be designed to compensate for the desired number of birds but some uncertainty in the numbers of kittiwake that will choose to nest there.	Yes	18



Compensation Measure	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact	Potential to deliver at a strategic level?	Total
Urban deterrents	5 Direct benefits to kittiwake and likely to have connectivity to FFC SPA	3 Strong evidence that multiple kittiwake mortalities are attributable to current badly maintained netting and inappropriate deterrents. Evidence of alternative methods is limited, but relatively simple in practice.	3 Direct benefits to kittiwake and likely to have some connectivity to FFC SPA	5 Measure likely to be deliverable in a short timeframe (<3 years).	2 Benefits can be delivered under a quick timeframe, though uncertainty on the number of kittiwake this measure could compensate for.	No	18
Reduce fisheries quota	4 Can have direct connectivity for kittiwake at FFC SPA and the wider bio-geographic region	4 Prey availability is a key limiting factor in kittiwake breeding success. Excluding fisheries from a large area may increase prey availability. Climate change is also a limiting factor related to prey availability.	2 Feasible if delivered by government through the common fisheries policy. Only relevant bodies such as IFCA and MMO have powers to implement closed areas to fishing in UK waters. There is currently no legal mechanism to allow a developer to implement fisheries closures.	1 There is a high degree of uncertainty regarding the security of the measure and long term implementation. Consideration will need to be given to potential political issues or barriers. Some certainty that measure could be functioning within 10 years but uncertainty due to political landscape	4 Sufficient change in quota would likely provide benefit to kittiwake. Scale likely to be large and therefore compensate a significant margin above numbers of birds potentially impacted by the project. Measure would require calculations in relation to prey biomass and the requirements of breeding kittiwakes in order to quantify any impact.	Yes	15
Purchase of fisheries quota	4 Can have direct connectivity for kittiwake at FFC SPA and the wider bio-geographic region	3 Prey availability is a key limiting factor in kittiwake breeding success. Purchasing the fisheries quota from a large proportion of the fleet may increase prey availability. Climate change is also a limiting factor related to prey availability.	1 No evidence of delivery and considerable uncertainty in outcomes. The purchase of quota by an offshore developer is unlikely to be a viable proposal under the current quota regulations. Different quota rules apply in different countries. In most cases quota cannot be acquired or traded by non-fishing organisations and there are restrictions with regards to the amount of quota that a single organisation can hold.	3 If achievable there is some certainty that measure could be functioning prior to impact (< 5 years).	4 Sufficient change in quota would likely provide benefit to kittiwake. Scale likely to be large and therefore compensate a significant margin above numbers of birds potentially impacted by the project. Measure would require calculations in relation to prey biomass and the requirements of breeding kittiwakes in order to quantify any impact.	Yes	15

## 4 Guillemot and Razorbill

4.1.1 Guillemot and razorbill are both members of the auk family (Alcidae) which form large, densely packed breeding colonies on cliffs during the reproductive season, typically between March and July. During this time, they forage close to the coast and generally feed on small fish and crustaceans. The rest of the year they spend at sea. Guillemot and razorbill are features at only three SPAs in England, shown in Table 4.1.

Table 4.1: National Site Network SPAs in England with guillemot and razorbill as a feature.

SPA	Guillemot	Razorbill
Flamborough & Filey Coast	Qualifying feature	Qualifying feature
Farne Islands	Qualifying feature	Un-named component of the seabird assemblage
Isles of Scilly	Un-named component of the seabird assemblage	Un-named component of the seabird assemblage

4.1.2 To date, no projects have had to rely on a derogation for adverse effects on guillemot and razorbill and as such no projects are currently required to provide compensation for these species. Consequently, projects in the southern North Sea region that have recently made DCO applications (e.g. Hornsea Four, and Sheringham Shoal and Dudgeon Extension Projects) have submitted “without prejudice” derogation cases as part of their applications for these species, including consideration of potential compensatory measures. The Project’s Draft RIAA concludes no AEoI on either of these bird species at the FFC SPA. Notwithstanding this conclusion, compensation is being progressed on a ‘without prejudice’ basis in the event the Secretary of State disagrees with the assessment in the RIAA. The primary compensation options identified for guillemot and razorbill through the shortlisting process were:

- Bycatch mitigation;
- Predator control;
- Offshore artificial nesting structures;
- Onshore artificial nesting structures; and
- Reduce fisheries quota.

4.1.3 A detailed evaluation of shortlisted options is presented in Table 4.2.

## 4.2 Bycatch Mitigation

- 4.2.1 Bycatch mitigation was the highest scoring compensation option for guillemot and razorbill during the shortlisting process. High numbers of guillemot and razorbill are known to be subject to bycatch mortality in fishing gear in the UK each year, with up to 2,500 guillemot estimated to be caught annually, mostly attributed to coastal static net fisheries (Northridge *et al.*, 2020). A variety of mitigation measures for seabird bycatch exist which have shown some success in reducing bycatch rates in various trials (Clean Catch UK, 2022). However, many of the options require further trials to evidence their effectiveness and to provide the necessary confidence in the measure. An added benefit of compensating by providing bycatch mitigation is that it does not need to be implemented several years prior to the construction of the Project because the benefits are immediate. See Bycatch Reduction Ecological Evidence and Roadmap (Part 7, Document 7.3) for full ecological evidence base and roadmap for bycatch mitigation.
- 4.2.2 There is currently active research in this area, which is being closely followed by the Project to inform the further consideration of this measure. Further detail about this measure is provided in the Project's Bycatch Reduction Ecological Evidence and Roadmap (Part 7, Document 7.3).

## 4.3 Predator Control

- 4.3.1 Predation by invasive mammals is highlighted as the top global threat to seabirds (Dias *et al.*, 2019), with guillemot and razorbill being among the species impacted in the UK. Eradication of predators at sites in the UK has shown to lead to large increases in productivity and subsequently population size, especially on islands (e.g. Lundy; JNCC, 2022).
- 4.3.2 Predator eradication at breeding colonies is considered a feasible option for guillemot and razorbill. Depending on the site, predator reduction or exclusion, as opposed to a full eradication, may be considered more appropriate. The next steps in developing this option for compensation will include the identification of sites where predation is suppressing guillemot and razorbill populations, factoring in that sites may be being considered by other projects (e.g. Hornsea Four). Further detail is provided in Predator Control Ecological Evidence and Roadmap (Part 7, Document 7.4).

## 4.4 Offshore Artificial Nesting Structures

- 4.4.1 Offshore artificial nesting structures will aim to increase nesting space for guillemot and razorbill, offering new breeding locations within range of optimal foraging habitat and preferably located at a suitable distance away from predation and anthropogenic pressures (e.g. OWFs). In comparison to kittiwake, evidence of both guillemot and razorbill breeding on offshore artificial structures in the UK is currently limited but there is clear evidence of guillemot and razorbill displaying incubation poses on such structures during the breeding season (Ørsted, 2021a).

- 4.4.2 Consequently, offshore artificial structures are currently considered a feasible option for guillemot and razorbill. The next steps in evaluating this compensation option are laid out in the Offshore Artificial Nesting Structures Ecological Evidence and Roadmap (Part 7, Document 7.3) and involve a continued evidence collection, site selection and design process. It is likely that this measure, if taken forward, would be delivered alongside an artificial nesting structure for kittiwake.

## 4.5 Onshore Artificial Nesting Structures

- 4.5.1 Onshore artificial nesting structures aim to increase nesting space for guillemot and razorbill, offering new nesting locations near to productive foraging habitat, and away from predation and anthropogenic pressures (e.g. OWFs). Evidence of guillemot and razorbill breeding successfully on onshore artificial structures exists (e.g. the Karlsö murre lab; Stockholm Resilience Centre, 2020), though notably this is within an existing colony and outside of the UK.
- 4.5.2 Given that onshore artificial nesting structures are not being progressed as a project level for kittiwake compensation, it is more probable that guillemot and razorbill nesting will be incorporated into an offshore structure for kittiwake and therefore an onshore option is currently only being considered through strategic workstreams. A detailed roadmap for onshore artificial nesting is not provided at this stage but further evidence for guillemot and razorbill nesting on artificial structures, and breeding requirements are provided in Offshore Artificial Nesting Structures Ecological Evidence and Roadmap (Part 7, Document 7.3).

## 4.6 Reduce Fisheries Quota

- 4.6.1 Prey availability has been evidenced as a key limiting factor suppressing the breeding success of guillemot and other seabird species. This has been particularly evidenced for guillemot populations within the North Sea, with a declining availability of key food sources, especially sandeel (Harris *et al.*, 2022; Anderson *et al.*, 2013). The Project consider a reduction in the sandeel fishing quota within the North Sea or the ability for developers to purchase a proportion of the fishery quota as viable measures to increase the availability of guillemot prey. The most effective way this could be achieved would be to restrict fishing on sandeel, sprat or juvenile herring in UK waters. However, it is widely accepted that this measure would be most effectively delivered by Government on a strategic basis. For example, this would need to be implemented by either Defra in the case of sandeel or the relevant Inshore Fisheries and Conservation Authority (IFCA) in the case of sprat and juvenile herring fisheries within UK inshore waters. Due to the threat to species that rely on sandeel as a source of prey, there is a Defra consultation underway at the time of writing on the spatial management of the industrial sandeel fishing in the North Sea (Defra, 2023). Given the acknowledged potential for fisheries management to provide compensation at a scale greater than the currently estimated in-combination effect arising from offshore windfarms in the southern North Sea region for guillemot and other species (McGregor *et al.*, 2022), prey enhancement measures could form a valuable part of the compensation proposals for the Project. Owing to the high degree of uncertainty over the security of the measure and long-term implementation, along with the lack of legal mechanism to allow a developer

to implement fisheries closures, this measure is not being considered at a project level at this stage.

Table 4.2: Shortlisted compensation options for guillemot and razorbill.

Compensation Measure	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact	Potential to deliver at a strategic level?	Total
Bycatch mitigation	4 This measure focuses solely on the target species but is unlikely to directly benefit species from FFC SPA due to the lack of active fisheries in that area.	3 ICES (2013), Bradbury et al. (2017) and Northridge et al., (2020) identified guillemot & razorbill as species known to be caught or sensitive to bycatch in European and UK waters. Žydelis (2013) also highlighted guillemot & razorbill as most concern for bycatch within gillnet fisheries in northern Europe. However, limited monitoring of seabird bycatch has been done in European waters. Some evidence that mitigation measures are effective for auk species.	3 Implementing measures to prevent bycatch (such as high visibility netting, above water deterrents and changes in practice) would reduce this pressure. However, a number of these methods are not evidenced. Successful delivery has been evidenced for Auks (e.g., Filey Bay) but a lack of data on bycatch numbers provides some uncertainty.	4 May take some time to implement, particularly if there is a need to work with other regulatory bodies or partners. Focusing on a single and/or smaller scale fishery within the UK may reduce timescales. Overall, relatively quick to implement at a small scale.	5 The benefit can be accurately predicted or measured in retrospect and adapted to match the required compensation at a defined ratio if fisheries are willing/incentivised to use mitigation measures.	No	19
Predator control	3 Anticipated direct benefit to auks but unlikely to be direct connectivity to FFC SPA due to the lack of appropriate sites in proximity to the SPA. Measure will be undertaken following feasibility study to ascertain predation pressure on auks at various colonies.	4 Some evidence is available for this species in relation to predation pressure. Considerable evidence base exists for predator eradication and/ or control from seabird colonies in general. Calculations will be required to understand the extent of measure. Multiple colonies can be targeted to increase extent.	5 Ground predator removal is well evidenced at UK seabird colonies and even more so, globally.	3 Measure will require a feasibility study to ascertain the presence of predators. This will require gathering local knowledge and potential site visits along with surveys. Eradication and/ or control scheme may also take at least 3 years. Potential for measure to be <5 years.	3 Some uncertainty in the predicted benefit but measure can be adapted to match the required compensation at a defined ratio.	Yes	18
Offshore artificial nesting structures	4 Direct benefits to guillemot and razorbill and likely to have some connectivity to FFC SPA.	3 Some evidence of both guillemot and razorbill nesting on manmade artificial nesting structures in proximity to colonies (e.g. Stora Karlsö Lab) alongside recent evidence of both species nesting on a structure in UK waters (Ørsted 2021).	3 There is some evidence that offshore nesting structures are feasible but there is some uncertainty regarding outcomes.	4 Offshore likely to be deliverable in short time frame (within 3 to 5 years) and therefore before anticipated impact.	4 Structure can be designed to compensate for the desired number of birds but some uncertainty in the numbers of birds that will choose to nest there.	Yes	18

Compensation Measure	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact	Potential to deliver at a strategic level?	Total
Onshore artificial nesting structures	3 Directly benefits the target species but unlikely to be near FFC SPA.	2 Some evidence of both guillemot and razorbill nesting on manmade artificial nesting structures in proximity to colonies (e.g. Stora Karlsö Lab) but no solid evidence of colonisation of artificial structures away from a colony.	3 Technical delivery is evidenced but it is likely to be challenging to find an appropriate location for a new nesting structure in proximity to FFC SPA.	4 Onshore likely to be deliverable in short time frame (within 3 to 5 years) and therefore before anticipated impact.	4 Structure can be designed to compensate for the desired number of birds but some uncertainty in the numbers of kittiwake that will choose to nest there.	Yes	16
Reduce fisheries quota	4 Can have direct connectivity for guillemot and razorbill at FFC SPA and the wider bio-geographic region	4 Prey availability is a key limiting factor in guillemot and razorbill breeding success. Excluding fisheries from a large area may increase prey availability. Climate change is also a limiting factor related to prey availability.	2 Feasible if delivered by government through the common fisheries policy. Only relevant bodies such as IFCA and MMO have powers to implement closed areas to fishing in UK waters. There is currently no legal mechanism to allow a developer to implement fisheries closures.	1 There is a high degree of uncertainty regarding the security of the measure and long term implementation. Consideration will need to be given to potential political issues or barriers. Some certainty that measure could be functioning within 10 years but uncertainty due to political landscape	4 Sufficient change in quota would likely provide benefit to guillemot and razorbill. Scale likely to be large and therefore compensate a significant margin above numbers of birds potentially impacted by the project. Measure would require calculations in relation to prey biomass and the requirements of breeding guillemot and razorbill in order to quantify any impact.	Yes	15

## 5 Gannet

- 5.1.1 Gannets are the largest British seabird with a wingspan measuring greater than 1.5m. They tend to form large colonies on unpopulated islands. In the UK, the gannet population has been increasing steadily, with an increase of 34% between census in 2003-04 and colonies surveyed in 2013-15. This has caused their ranges to expand resulting in several new colonies. An example of this can be observed at FFC SPA (the only SPA in England for which gannet are a qualifying feature) where the colony is growing rapidly. It should be noted that the effect of the recent highly pathogenic avian influenza (HPAI) virus outbreak is currently not fully understood but initial reports suggest that gannet colonies have been impacted.
- 5.1.2 The Project's Draft RIAA concludes no AEoI on the gannet feature at the FFC SPA. Notwithstanding this conclusion, compensation is being progressed on a 'without prejudice' basis in the event the Secretary of State disagrees with the assessment in the RIAA. Ongoing monitoring will determine the feasibility of the following measures, but it is likely that confidence in measures that provide increased nesting site availability may be reduced due to the ongoing effects of avian influenza (Section 7.2). The primary compensation options identified for gannet were:
- Bycatch mitigation;
  - End culling;
  - Offshore artificial nesting structures; and
  - Establish new colonies.
- 5.1.3 A detailed evaluation of shortlisted options is presented in Table 5.1.

## 5.2 Bycatch Mitigation

- 5.2.1 Gannets are highly susceptible to fisheries bycatch, with hundreds estimated to be caught annually in UK waters, especially by the offshore longline fleet (Northridge *et al.*, 2020; Miles *et al.*, 2020). Measured bycatch rates would be considerably higher if foreign fleets were taken into consideration. This issue also affects areas beyond the UK which have connectivity with UK colonies (e.g. Grand Sol, Bay of Biscay; Anderson *et al.*, 2011; Furness *et al.*, 2018). A range of mitigation measures are available, which may be implemented to reduce incidental bycatch of gannets, predominantly in longline fisheries.
- 5.2.2 Discussions with several UK and overseas bycatch experts have provided information to further understand the extent of bycatch in UK waters and determine which fisheries would benefit from the uptake of seabird bycatch mitigation technology. Current evidence and next steps are laid out in the Project's Bycatch Reduction Ecological Evidence and Roadmap (Part 7, Document 7.4).



### 5.3 End Culling

- 5.3.1 At Sula Sgeir, an annual harvest of 2,000 gannet chicks occurs, suppressing population growth. Stopping the harvest would result in increased colony productivity and recruitment to other colonies within the bio-geographic region. An analysis by McGregor *et al.* (2022), found that ending the harvest would recruit an additional 495 adult gannet back into the UK population each year. There was high confidence that this measure could provide compensation back into the UK network, however, it is not clear the extent to which individuals would feed into the population at FFC SPA (McGregor *et al.*, 2022).
- 5.3.2 Owing to the cultural importance of the harvest to the local community, efforts to reduce or end it are expected to be strongly opposed by both community members and the Scottish Government; as a result this measure is not considered as a feasible compensation option moving forwards.

### 5.4 Offshore Artificial Nesting Structures

- 5.4.1 Offshore artificial nesting structures would offer additional nesting space to gannets in areas close to favourable foraging habitat. Since gannet colonies show classic density dependence, where competition for resources (either prey or nesting space; Lewis *et al.*, 2001) limits population growth (Wanless *et al.*, 2005), this measure is expected to encourage further growth of the national gannet population.
- 5.4.2 Evidence of gannets breeding on artificial structures is predominantly limited to the Australasian gannet, with very limited evidence of northern gannet breeding on offshore structures. This measure, while offering potential, will therefore not be considered further at this stage.

### 5.5 Establish New Onshore Colonies

- 5.5.1 In the North Sea, there are no gannet colonies located further south than the FFC SPA. Therefore, it is likely that, given an appropriate location and use of call playback, gannet could be encouraged to colonise a new area. However, currently, there is limited evidence of this measure being undertaken, and consequently significant uncertainty associated with any outcomes. This measure will therefore not be further considered at this stage.

Table 5.1: Shortlisted compensation measures for gannet

Compensation Measure	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact	Potential to deliver at a strategic level?	Total
Bycatch mitigation	4 This measure focuses solely on the target species and will directly benefit species from FFC SPA during non-breeding season.	5 ICES (2013), Bradbury <i>et al.</i> , (2017) and Northridge <i>et al.</i> , (2020) identified gannet as species known to be caught or sensitive to bycatch in European and UK waters. There are several successful mitigation measures for longline but fewer evidenced measures for fixed nets.	3 Implementing measures to prevent bycatch (such as line scarers and deterrents) would reduce this pressure. Delivery has been evidenced for other species, but uncertainty exists for gannet. More calculations of bycatch are necessary to fully understand the extent to which this measure can be used as compensation.	4 Has the potential to implement relatively quickly (<3 years). However, previous bycatch projects for other species took considerable time to employ. Focusing on a single fishery may reduce timescales but dealing with foreign fishing fleets likely to be time consuming.	3 Mitigation can be designed to compensate for the desired number of birds but there is uncertainty in the numbers of gannet that are bycaught annually. In addition, there is uncertainty whether the measure will provide compensation at the desired ratio.	No	19
End culling	2 Directly benefits gannet at North Rona and Sula Sgeir SPA but has no connectivity to the impacted site at FFC SPA.	5 Ending the harvest of gannet chicks at Sula Sgeir would increase productivity at that colony by at least 2000 chicks per year and would be likely to result in more rapid growth of breeding numbers there and allow more individuals to emigrate to new colonies.	1 Little or no evidence of delivery. Measure may not be acceptable for cultural reasons as gannet harvest is an important part of the local culture in north Lewis (Murray 2008). Temporary cessation of harvesting may be more feasible for a time span to be discussed as appropriate.	5 Likely that measure could be functioning prior to impact occurring (<3 years) due to non-physical requirements of measure and only at a single location.	5 Confident that the benefit can be accurately predicted and adapted to match the required compensation at a defined ratio.	No	18
Offshore artificial nesting structures	4 Direct benefits to gannet and likely to have some connectivity to FFC SPA.	2 Some evidence of gannet nesting on manmade structures (e.g. Australasian gannet) but no solid evidence of breeding on offshore structures in the North Sea due to human disturbance. Gannet do colonise new areas fairly rapidly and there is strong evidence that gannet do not currently have enough nesting space on land.	3 There is some evidence that offshore nesting structures are feasible but there is some uncertainty regarding outcomes.	4 Offshore likely to be deliverable in short time frame (within 3 to 5 years) and therefore before anticipated impact.	4 Structure can be designed to compensate for the desired number of birds but some uncertainty in the numbers of birds that will choose to nest there.	Yes	17

Compensation Measure	Targeted	Effectiveness	Technical delivery	Delivery lag	Scale of Impact	Potential to deliver at a strategic level?	Total
Establish new onshore colony	3 Measure focuses on target species but unlikely to have connectivity to the impacted site at FFC SPA.	4 There is evidence that the UK gannet population is increasing and that there is a large population of non-designated breeding gannet in the UK, which could colonise elsewhere (e.g. St Abb's Head; Furness <i>et al.</i> 2013).	2 There is some evidence of delivery and some uncertainty associated with the outcomes. Encouraging more rapid expansion using models of gannet and playback of calls may increase the productivity of the colony. Challenging to find an appropriate site for a new breeding colony.	4 Some certainty that such a measure could be agreed prior to the impact occurring (< 3 years).	3 Any new colony can be theoretically designated to compensate for the desired number of birds. Some uncertainty in the numbers of birds that will choose to nest there.	No	16

## 6 Other species

- 6.1.1 There are several other species that have been flagged by Natural England during the Evidence Plan Process (EPP) as having the potential for an AEoI as a result of effects arising in-combination, and could, therefore require derogation and associated compensation. The Applicant notes that these species were raised as a general concern by Natural England prior to site-specific data being available. Based on the site-specific data and assessment results presented in the Draft RIAA (Document 7.1) the Applicant does not currently consider that these species will be at risk of requiring a derogation case. These include red throated diver from the Greater Wash SPA, Sandwich tern from North Norfolk Coast SPA and lesser black-backed gull from Alde-Ore Estuary SPA. The Applicant will review this position in light of the further data analysis and assessment and consultation with Natural England, prior to the making of the DCO application.

## 7 Further Considerations

- 7.1.1 The Applicant is confident that, where required, compensation could be provided for any AEoI from the construction and operation of the Project in-combination. Where options are not currently fully evidenced, the Applicant will seek to provide further evidence or provide a suite of measures to increase the confidence that compensation can be provided as part of the DCO application.
- 7.1.2 Although a variety of options have been identified for each of the species considered as part of this strategy, it is acknowledged that there are currently further considerations to be progressed to achieve successful implementation including, but not necessarily limited to:
- The inability for the Project to implement wide-scale measures across the UK and influence other industries to alter their practices. This means that some of the potentially most effective compensation options, such as fisheries management measures, would need to be strategically led by government (see Section 8). The Project is a member of the Offshore Wind Industry Council (OWIC), a senior Government and industry forum, which may provide a mechanism to aid collaboration across the industry. Strategic collaboration between developers will be supported by the Project where these have the potential to deliver effective compensation measures within the timeframe required.
  - The current lack of evidence supporting the development of certain of the compensatory options. Further evidence gathering, and in some cases trials, might be necessary to support the development and adoption of these.
  - The adoption of population level measures. There is currently debate regarding the scale at which compensation must be applied. Natural England have stated that *“compensation delivery is to maintain the coherence of the National Site Network... not the general populations of these species”* during the EPP (Draft RIAA: Document 7.1, Section 5.3). As demonstrated in Table 3.1 and Table 4.1, there are a limited number of SPAs within England designated for the species being considered here and therefore limited options for compensation within the site network in England. The Applicant believes the role of the National Site Network’s is to maintain a healthy UK population, and as such the Project considers that adequate compensation could be delivered by recruiting adults back into the bio-geographic population in situations where measure directly attributable to the National Site Network are not feasible.

- The delivery of any compensation measure. Initially, an evidence report and a proposed roadmap plan will be provided for each compensation option. As the workstream develops a detailed implementation and monitoring plan will also be developed. Even with sufficient evidence to support the adoption of a compensatory measure, there are potential logistical challenges in the delivery of these measures at the desired scales. Consequently, monitoring schemes and adaptive management approaches will be developed alongside each measure. In the scenario where it is not possible to deliver compensation for the affected species and/or at the desired scale, a non-like-for-like approach may need to be considered.

## **7.2 Highly Pathogenic Avian Influenza (HPAI)**

- 7.2.1 The recent outbreak of HPAI among seabirds is likely to influence populations for a considerable time. If seabird populations have reduced in size and there are insufficient numbers of non-breeders in the population to occupy available nesting spaces, then compensation measures aiming to provide additional nesting sites may not be so effective in the short term because nesting site availability may not currently be a limiting factor on population growth. Currently, there is uncertainty in the size of the non-breeding pool of adults and it is helpful to develop this understanding to support the use of artificial nesting as a compensation measure. The monitoring of artificial nesting structures currently being developed and monitoring of colonies that have suffered from the effects of HPAI are expected to provide evidence in this respect.

## **7.3 Non-like-for-like Approach**

- 7.3.1 In the event where it is not possible to deliver compensation to the affected species (qualifying feature) at the impacted site, draft Defra guidance on compensation (Defra, 2021) suggests a hierarchy approach should be followed, where measures can be implemented away from the directly impacted site. In circumstances where no viable options are available for the affected species elsewhere within the site network, the guidance provides for the consideration of a non-like-for-like approach, benefiting a different species but with the same goal of maintaining the overall coherence of the national site network.
- 7.3.2 For some species (e.g. guillemot and razorbill), there is a shortage of viable compensation options that will provide the required quantum of compensation within England that can be developed by individual projects to the required timescale. The Applicant will explore options to pursue non-like-for-like measures as an alternative or in addition to any of the compensation options set out within this strategy document.

- 7.3.3 It is noted that several of the measures that are currently being considered in this strategy have the potential to provide additional benefit to a range of other species. For example, bycatch mitigation for the auk species would also have the potential to also reduce bycatch of other diving species such as shags (*Gulosus aristotelis*), cormorants (*Phalacrocorax carbo*) and various seaduck species. Similarly, predator control would have the potential to reduce predation on breeding shearwater and petrel species (noting that some of these species are in decline and considered to be critically endangered (e.g. Balearic shearwaters)).

## 8 Strategic delivery

### 8.1 Overview

- 8.1.1 To date, it has been the responsibility of individual developers to develop and provide compensation. This has been driven predominantly by the differences in timings of individual projects coming forwards which has created challenges for strategic/collaborative approaches, but also because there has been a lack of a strategic framework in the regulatory process and with clear Government support. Individual projects developing compensation can also create challenges, for example, competition for preferred compensation sites, differences in approaches to evidence, design and/or monitoring, limitations in the ability to share information and learning, issues around success liability, and importantly, having to evidence small scale (project-level) results.
- 8.1.2 An alternative solution is to adopt a coordinated large-scale, strategic-level approach to compensation delivery for OWFs in the UK. There are numerous benefits to delivering at scale, including delivering compensation on a collaborative basis, which in turn will help reduce ecological risk and provide confidence in achieving the required population level (e.g. by spreading the risk over multiple measures) resulting in a substantially enhanced outcome. Furthermore, developing small scale measures tends to be very expensive, with unknown future liabilities which can cause commercial issues which whilst not a consideration within Habitats Regulations Assessment (HRA) decision making, are central to the operational success of delivering an OWF project. A co-ordinated approach can also avoid the need for individual projects to overcompensate which subsequently reduces the range of options for subsequent projects (i.e. multiple developers could benefit from one measure), as well as providing a mechanism to deliver compensation measures that cannot be delivered by developers e.g. measures that require Government such as fisheries management.
- 8.1.3 A key target within the British Energy Security Strategy (BESS) is to reduce the time taken to consent offshore wind projects, with the development of ecological compensation flagged as time critical. Likewise, a Cross-government Nationally Significant Infrastructure Projects (NSIP) Action Plan 2023 (DLUHC, 2023), and a "Nature Recovery Green Paper: Protected Sites and Species" have been published with the aim to reduce consenting times (Defra, 2022). These measures include the Marine Recovery Fund to enable an accelerated build out of projects, by delivering compensation strategically ahead of project operation. It is currently being considered whether contributions to the MRF would be sufficient to discharge compensation requirements to developers. However, it is noted that at this time projects cannot rely on the MRF being in place.



## 8.2 Round Four Plan-Level HRA

8.2.1 As part of the Plan-Level HRA for the Round Four projects, The Crown Estate (the competent authority) concluded an AEoI in-combination for the Round Four Plan for kittiwake at FFC SPA. The Plan-Level HRA proceeded on the basis of a derogation, with compensation required in the form of a KSCP. The Kittiwake Strategic Compensation Plan KSCP is a forum through which the strategic delivery of compensation for the Round Four Plan will be delivered. The Project, as part of the Round Four Plan and one of the three projects contributing to an AEoI, is committed to supporting The Crown Estate in its delivery of the KSCP to enable strategic compensation for kittiwake.

## 8.3 OWIC

8.3.1 The Applicant is an active member of OWIC and has contributed towards the delivery of various strategic compensation case studies that have been completed to date. The OWIC group is currently developing four topics as strategic compensation for a pilot approach, two of which are relevant to seabirds:

- Artificial nesting structures;
- Infrastructure removal or repurposing;
- Predator control or eradication; and
- Habitat creation (primarily for benthic compensation).

8.3.2 In addition, two workstreams are being progressed as pilots by Government:

- Fisheries management to improve prey availability for seabirds; and
- Enhanced MPA management, including the potential for new or extended sites.

8.3.3 The Project also has members contributing towards the Collaboration on Offshore Wind Strategic Compensation (COWSC) Expert and Delivery groups.

8.3.4 The Applicant will continue to engage actively in the OWIC workstreams and support the development of the strategic delivery of compensation measures for the relevant sites/features through this collaborative initiative.

## 8.4 Marine Recovery Fund (MRF)

8.4.1 The creation of the MRF is a clear step forward in establishing a mechanism through which multiple projects can secure access to suitable compensatory measures that are delivered at a strategic level. The Applicant believes this mechanism has the potential to enable the greatest ecological benefit to the National Site Network, whilst also enabling the timely delivery of required measures and as a result accelerating the deployment of offshore wind in line with Government policy. It also enables the delivery of compensation measures that can only be realised by Government, and additionally allows the more effective and efficient use of resources across Government, regulators and the SNCBs.

8.4.2 It is Government's intention that the MRF will be operational and able to receive payments by late 2023<sup>1</sup>, and therefore will be an available option to deliver compensation at the strategic level where this is required by the Project to support any derogation. It is noted that at the time of writing the scope, measures, and mechanism of the MRF are still to be confirmed. If the timescales for the implementation of the MRF align with those of the Project, compensation is determined by the SoS as being required the Project may utilise this mechanism as appropriate. The Project will seek to align the overall compensation strategy with the emerging MRF, whilst continuing to develop available project-specific compensation proposals, so these can be drawn on if required.

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<sup>1</sup> Energy Security Bill factsheet: <https://www.gov.uk/government/publications/energy-security-bill-factsheets/energy-security-bill-factsheet-offshore-wind-environmental-improvement-package>

## 9 Site Improvement

- 9.1.1 The SNCBs are responsible for maintaining and improving the national site network and generally set out their objectives within site improvement plans (Natural England, 2015).
- 9.1.2 In relation to site improvement, the Defra compensation guidance states that “any measure that is being or will be undertaken by government bodies to ensure that the site is in favourable conservation status or that protected features are in favourable condition, should not be considered as compensation” (Defra, 2021). When considering compensation measures, it is therefore important to ensure that what is being proposed is additional to the baseline (i.e. the current site improvement plan). If there is evidence that conservation objectives are not being met because the site improvement plans are not being enacted in part or full, it is possible that elements of site improvement above and beyond what is actually being delivered (or is likely to be delivered) could be considered as viable compensation. The Applicant will consider the potential for site improvement in discussion with Natural England when reviewing the compensation strategy.

## 10 Conclusion

- 10.1.1 The measures set out in this document will be developed further with the aim to have measures agreed and developed as far as feasibly possible at the point of DCO application submission. The measures for which roadmaps have been developed for include artificial nesting structures, predator control and bycatch reduction. In addition, other options are still being considered and will be developed further if deemed necessary.

## 11 References

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