



VENDOR COVERSHEET

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FIVE
ESTUARIES
OFFSHORE WIND FARM

FIVE ESTUARIES
OFFSHORE WIND FARM
COMPENSATION MEASURES SHORTLIST
TECHNICAL NOTE

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Definition of acronyms

TERM	DEFINITION
AEoI	Adverse Effects on Integrity
AOE	Alde-Ore Estuary
DCO	Development Consent Order
FFC	Flamborough & Filey Coast
FOCI	Feature of Conservation Importance
HRA	Habitats Regulations Assessment
IROPI	Imperative reasons of overriding public interest
LSE	Likely Significant Effect
MCZ	Marine Conservation Zone
M&LS SAC	Margate & Long Sands Special Area of Conservation
MMF	Mean-max foraging range
NE	Natural England
RAG	Red, Amber, Green
SAC	Special Area of Conservation
SD	Standard Deviation
SPA	Special Protection Area
VE	Five Estuaries Offshore Wind Farm
VE OWFL	Five Estuaries Offshore Wind Farm Limited



1. INTRODUCTION

1.1 BACKGROUND

FIVE ESTUARIES OFFSHORE WIND FARM

- 1.1.1 Five Estuaries Offshore Wind Farm (VE) is a proposed extension to the operational Galloper Offshore Wind Farm. VE would be located approximately 37 km off the coast of Suffolk, England (at its closest point).
- 1.1.2 As part of the Development Consent Order (DCO) application, Five Estuaries Offshore Windfarm Ltd (VE OWFL) is required to undertake a Habitats Regulation Assessment (HRA) and report the information needed to undertake an Appropriate Assessment. If the HRA process deems that Adverse Effects on Integrity (AEoI) cannot be excluded, a derogations process is followed. In the event that no alternative solutions can be found, and if there are imperative reasons of overriding public interest (IROPI), the final stage of the derogations process is to develop measures to compensate for adverse effects on a site.

DEROGATION PREPARATION

- 1.1.3 In order to allow for sufficient time to engage with stakeholders and develop compensation plans, VE OWFL is investigating compensation options at this early stage in the pre-application period, but this does not prejudice the outcome of the ongoing HRA process.
- 1.1.4 The three sites identified for being at the highest risk of requiring derogation for VE are the following : Alde-Ore Estuary (AOE) Special Protection Area (SPA), Flamborough and Filey Coast (FFC) SPA, and Margate and Long Sands (M&LS) Special Area of Conservation (SAC).
- 1.1.5 VE OWFL has identified potential compensation measures for VE and created a 'longlist' of all possible compensation options at the three high risk sites. The longlisted options are based on the existing VE project proposal, experience with HRA derogation matters in the UK and stakeholder feedback received to date. These longlisted options are discussed in 'Five Estuaries Offshore Wind Farm: Potential compensation measures longlist report' (VE OWFL, 2022_a).
- 1.1.6 The longlist options were narrowed down to a shortlist following a ranking criteria assessment (otherwise known as a Red-Amber-Green (RAG) assessment) (VE OWFL, 2022_b). The shortlisted options are presented within this report.
- 1.1.7 Additional work will be undertaken on the shortlisted options to further define feasibility, siting, timelines and evidence gaps.



1.2 AIMS AND OBJECTIVES

- 1.2.1 This technical note outlines the findings from the ranking of the longlist and discusses the shortlisted options identified as potential measures to compensate for:
- > Potential impacts on Northern gannet (*Morus bassanus*, hereafter referred to as 'gannet') and black-legged kittiwake (*Rissa tridactyla*, hereafter referred to as 'kittiwake') at FFC SPA
 - > Potential impacts on lesser black-backed gull (*Larus fuscus*) at AOE SPA
 - > Potential physical disturbance/loss of sandbanks slightly covered by sea water all the time (hereafter referred to as 'sandbanks') at M&LS SAC resulting from installation of cable protection

1.3 FFC SPA

- 1.3.1 FFC SPA is 251 km from VE. The SPA is designated for gannet kittiwake, common guillemot (*Uria aalge*, hereafter referred to as 'guillemot'), razorbill (*Alca torda*) and the seabird assemblage.
- 1.3.2 VE screening (VE OWFL, 2021) concluded potential for Likely Significant Effect (LSE) for kittiwake and gannet, and as such they should be assessed within the RIAA. For kittiwake, the potential for LSE arises from potential collision risk with turbines. For gannet, the potential for LSE arises from potential collision risk, and displacement.
- 1.3.3 It should be noted that screening concluded no LSE for guillemot and razorbill (VE OWFL, 2021), however Natural England (NE) have previously raised concerns on the potential of future North Sea wind farm project impacts on guillemot and razorbill at FFC SPA. NE has highlighted that their advice for the Examination for Hornsea 4 (ongoing at the time of writing) could be that AEoI cannot be ruled out for guillemot and/or razorbill displacement, which could lead to future requirements for other North Sea projects to consider in-principle compensation for guillemot and razorbill at FFC SPA. As such, whilst there are currently no derogation concerns identified for VE beyond gannet and kittiwake, VE OWFL will follow developments regarding guillemot and razorbill during the Hornsea 4 examination.

1.4 AOE SPA

- 1.4.1 AOE is 15 km away from VE. The SPA is designated for marsh harrier (*Circus aeruginosus*), lesser black-backed gull, ruff (*Philomachus pugnax*), avocet (*Recurvirostra avosetta*), little tern (*Sterna albifrons*), Sandwich tern (*Sterna sandvicensis*) and redshank (*Tringa tetanus*).
- 1.4.2 VE is within MMF + 1SD from VE for lesser black-backed gull, and there is therefore potential connectivity between the SPA and VE. Concern regarding collision risk has been raised for lesser black-backed gull on other projects by NE, and recent decisions on other offshore wind projects (e.g. Boreas, Vanguard, East Anglia ONE North and East Anglia TWO) concluded that AEoI could not be ruled out for lesser black-backed gull at AOE SPA when considered in-combination with other projects. As a precedent for concern around AEoI has been established on other projects, the species is thus of derogation potential for VE.



1.5 M&LS SAC

- 1.5.1 The M&LS SAC is designated for sandbanks and the VE Offshore Export Cable Route (OECR) passes directly through the site. In the Extension Round Strategic HRA (The Crown Estate, 2019), the document highlighted that the feature condition is considered to be favourable. Further, it was concluded that there was no AEoI at this site.
- 1.5.2 Nevertheless, recent precedent has been set on Hornsea Three and Vattenfall's Norfolk Boreas and Norfolk Vanguard projects that where cable protection installation within a SAC cannot be avoided, then an AEoI conclusion may be reached by the Secretary of State. Although these projects are compensating for a feature that is deemed to be in an *unfavourable* condition, this feature at M&LS SAC remains a derogation potential for VE.



2. SHORTLISTED COMPENSATION PROPOSALS

2.1 OVERVIEW

- 2.1.1 Due to the similarity of several of the longlist options (see VE OWFL, 2022a), we have hereafter grouped similar options for clarity; for ornithological features, the longlist options of fisheries closure, fisheries quota reduction, and fisheries quota purchase are grouped under “fisheries management”. The longlist options of onshore artificial nesting sites, new offshore artificial nesting sites, and repurposed offshore artificial nesting sites are grouped under “artificial nest sites”. The options of alternative trail development, signage installation and warden funding are grouped under “disturbance reduction”.
- 2.1.2 The following sections present a summary of the conclusions of the shortlisting approach. Full details of the shortlisting scores and rationale are presented in the accompanying Scoring Matrix.



2.2 KITTIWAKE AT FFC SPA

2.2.1 Table 2.1 shows the RAG assessment results for the longlist options for kittiwake.

2.2.2 None of the 20 options were ranked as red (low-scoring), 15 options as amber (intermediate), and five as green (top-scoring and taken forward to the shortlist).

Table 2.1 – RAG scores for kittiwake compensation options.

COMPENSATION OPTION	RAG SCORE
Exclusion of great skua (<i>Stercorarius skua</i>) from breeding colonies	AMBER
Oil spill management improvements	AMBER
Construction of storm defences near colony	AMBER
Kittiwake bycatch reduction	AMBER
Provisioning of nest materials	AMBER
Sandeel alternatives research funding	AMBER
Mammalian predator management	AMBER
Plastic waste removal from colonies	AMBER
Peregrine falcon (<i>Falco peregrinus</i>) alternative prey enhancement	AMBER
Watersports engagement (reducing watersports disturbance)	AMBER
Supplementary feeding	AMBER
Engagement funding on plastics and marine litter	AMBER
Marine SPA creation	AMBER
Peregrine falcon diversionary feeding	AMBER
Artificial nest sites	GREEN
Fisheries management	GREEN
Directed offal discards	GREEN
Prey habitat enhancement	GREEN
Crow control	GREEN
Disturbance reduction	GREEN

2.2.3 The RAG score was determined by a variety of criteria; the main reasons for each amber-listed option not being deemed feasible are discussed in APPENDIX A.



2.3 GANNET AT FFC SPA

2.3.1 Table 2.2 shows the RAG assessment results for the longlist options for gannet. None of the 17 options were ranked as red (low-scoring), 12 options as amber (intermediate), and five as green (top-scoring and taken forward to the shortlist).

Table 2.2 – RAG scores for gannet compensation options.

COMPENSATION OPTION	RAG SCORE
Oil spill management improvements	AMBER
Provisioning of nest materials	AMBER
Sandeel alternatives research funding	AMBER
Supplementary feeding	AMBER
Disturbance reduction	AMBER
Fisheries management	AMBER
Aquaculture entanglement reduction	AMBER
Enhancing colony establishment	AMBER
Ending gannet chick harvest	AMBER
Watersports engagement (reducing watersports disturbance)	AMBER
Engagement funding on plastics and marine litter	AMBER
Marine SPA creation	AMBER
Artificial nest sites	GREEN
Directed offal discards	GREEN
Gannet bycatch reduction	GREEN
Plastic waste removal from colonies	GREEN
Prey habitat enhancement	GREEN

2.3.2 The main reasons for each amber-ranking option for gannet not being deemed a suitable compensation option are discussed in APPENDIX A.



2.4 LESSER BLACK-BACKED GULL AT AOE SPA

2.4.1 Table 2.3 shows the RAG assessment results for the longlist options for lesser black-backed gull (for full details on the shortlisting methodology and longlist. None of the 13 options were ranked as red (low-scoring), eight options as amber (intermediate), and five as green (top-scoring and taken forward to the shortlist).

Table 2.3 – RAG scores for lesser black-backed gull compensation options.

COMPENSATION OPTION	RAG SCORE
Herring gull control	AMBER
Oil spill management improvements	AMBER
Artificial nest sites	AMBER
End lesser black-backed gull culling	AMBER
Fisheries management	AMBER
Air space user engagement (reducing air disturbance)	AMBER
Lesser black-backed gull bycatch reduction	AMBER
Marine SPA creation	AMBER
Supplementary feeding	GREEN
Predator exclusion fencing	GREEN
Predator management	GREEN
Disturbance reduction	GREEN
Habitat creation	GREEN

2.4.2 The RAG score was determined by a variety of criteria; the main reason for each amber-listed option not being deemed feasible is discussed briefly in in APPENDIX A.



2.5 NON-LIKE FOR LIKE ORNITHOLOGY COMPENSATION

2.5.1 In addition to the gannet, kittiwake and lesser black-backed gull compensation options, a range of non-like for like ornithology compensation options were considered as part of the longlist and shortlisting. The results for these options are presented in Table 2.4.

Table 2.4 – RAG scores for non-like for like compensation options.

COMPENSATION OPTION	TARGET SPECIES	RAG SCORE
Construction of storm defences near colony	Petrel spp. and guillemot	AMBER
Colony flood protection	Common tern (<i>Sterna hirundo</i>)	AMBER
Artificial nesting burrows	Puffin (<i>Fratercula arctica</i>) and Manx shearwater (<i>Puffinus puffinus</i>)	AMBER
Predator-proof nesting rafts	Common tern	AMBER
Predator eradication	Manx shearwater, petrel spp. and Auk spp.	AMBER
Creation and/or protection of saltmarshes	Avian community	GREEN
Longline bycatch reduction	Northern fulmar (<i>Fulmarus glacialis</i>)	GREEN
Bycatch reduction	Guillemot & razorbill	GREEN

2.5.2 Non-like for like options are not discussed further in this technical note, but could be revisited in the future if additional compensation options need to be explored, for example in the event that none of the like for like options are deemed feasible.

2.6 SANDBANKS AT M&LS SAC

2.6.1 The longlist options for sandbanks were grouped into four compensation themes: habitat improvement, habitat re-creation, reserve creation and threat reduction (see VE OWFL, 2022_a).

2.6.2 Table 2.5 shows the RAG assessment results for the longlist options for M&LS SAC. All four options aimed at compensating for impacts on the Annex I reef feature were ranked as either red (low-scoring) or amber (intermediate-scoring). This is because Annex I reef is not listed as a feature despite evidence of it forming in parts of the site it. In addition, it is considered that these measures would not specifically offset the impacts on sandbank habitat or help to maintain the overall ecological coherence of the network of sites). Therefore, none of the reef options are taken forward to the shortlist or discussed further in this technical note. Nevertheless, these could be revisited in the future if additional compensation options need to be explored, for example in the event that none of the like for like options taken forward to the shortlist at this time are deemed implementable at a later stage.



2.6.3 The remaining 17 compensation options were aimed at compensating for sandbanks specifically, of which seven were ranked as red (low scoring), four as amber (intermediate scoring) and four as green (high scoring). Only the green options are taken forward to the shortlist and discussed further in this report.

Table 2.5 – RAG scores for sandbank compensation options (*denotes those measures that appear as two separate options in APPENDIX B).

COMPENSATION OPTION	RAG SCORE
*Maintaining sediment budget (use of agitation dredging only or commitment to depositing material within M&LS SAC)	RED
Management of navigational dredging methods	RED
Establishing new sandbank areas	RED
Microplastic and contaminant loading research	RED
Removal of marine non-native species	RED
Improving hydrodynamics	RED
Improving water quality	RED
*Fisheries management (spatial reduction or development of new management mechanism)	AMBER
Facilitating lost fishing gear retrieval	AMBER
Marine activity restrictions	AMBER
Aggregate dredging activity management	AMBER
Extending a SAC	GREEN
Redundant infrastructure removal	GREEN
Marine debris removal	GREEN
Marine debris awareness and engagement	GREEN

2.6.4 The RAG score was determined by a variety of criteria the main reasons for each red or amber-listed option not being deemed feasible is discussed briefly in APPENDIX A.



3. SHORTLISTED OPTIONS

3.1 OVERVIEW

3.1.1 The options ranked as Green in the RAG assessment described in Section 2 above were taken forward to the shortlist. The remainder of this report discusses each shortlisted option, as well as providing a conclusion on the findings from the shortlisting, and outlining next steps in the development of compensation options.

3.2 KITTIWAKE

3.2.1 The following kittiwake compensation options scored green as part of the RAG shortlisting procedure, and are thus taken forward to the shortlist:

- > Artificial nest sites
- > Fisheries management
- > Directed offal discards
- > Prey habitat enhancement
- > Crow control
- > Disturbance reduction

ARTIFICIAL NEST SITES

OPTION INFORMATION

3.2.2 This option would consist of increasing the number of available kittiwake breeding spaces by creating an artificial nest site, either by building a new onshore or offshore structure, or by repurposing an existing offshore structure (e.g. a defunct rig). It is worth noting that a number of offshore installations which support breeding kittiwake are due for decommissioning relatively soon. The provision of additional nesting spaces can thus also alleviate this anticipated shortfall in suitable nesting opportunities.

SHORTLISTING RATIONALE

3.2.3 This measure was shortlisted based on the known effectiveness of artificial nest sites for kittiwake (e.g. Lanctot *et al.* 2003; Turner, 2010). It should be noted that a number of recently consented OWFs (such as Hornsea Three OWF) are providing onshore artificial nest sites as compensation for kittiwake, and thus opportunities for any further onshore nest sites would need to be reviewed. Evidence suggests kittiwake productivity is higher offshore (Christensen-Dalsgaard *et al.*, 2019).

INITIAL NEXT STEPS

3.2.4 Site selection of an artificial nest site should be commenced if this option is to be progressed. A large amount of information exists in the public domain which can support this process. In addition, rate of recruitment into a proposed new breeding colony, as well as emigration back into the SPA network, will need to be better understood through a review of the scientific literature and past artificial nest projects.



FISHERIES MANAGEMENT

OPTION INFORMATION

3.2.5 The aim of fisheries management as a compensation option is to improve food availability, with the aim of increasing productivity of kittiwake by increasing stocks of key prey such as sandeel and sprat. In terms of delivery, fisheries management may include a reduction in fisheries quota, the purchase of fisheries quota, or the closure of fisheries areas.

SHORTLISTING RATIONALE

3.2.6 Fisheries management was shortlisted as reductions in fish stocks and seabird prey availability are known to affect seabird populations and productivity (e.g. Oro & Furness, 2002; Carroll *et al.*, 2017). Reducing fishing pressure can be a highly effective way of increasing fish stocks, benefiting a multitude of seabird species.

INITIAL NEXT STEPS

3.2.7 There is currently no mechanism for individual OWF developers to manage fisheries as a compensation measure, thus substantial work on delivery mechanisms would be needed before this could be implemented as a compensation measure. Work with other developers, government and the fishing industry is needed to develop approaches for the strategic delivery of compensation through fisheries management. Given these challenges, next steps will include investigating whether this strategic compensation option can be feasibly realised within the VE OWF timelines.

3.2.8 In order to understand the extent (e.g. size of closure area, scale of quota reduction) at which this measure would need to be implemented to deliver the required levels of compensation, further research is needed to better understand the links between fish stocks and kittiwake productivity. Should this compensation option be investigated further, it is envisaged that this research would be conducted as a literature review in the first instance.

DIRECTED OFFAL DISCARDS

OPTION INFORMATION

3.2.9 The aim of directed offal discarding is to improve kittiwake food availability and therefore productivity by working with the fishing industry to discard fisheries offal close to colonies and away from fishing activities. Kittiwake are known to feed on fisheries offal (Coulson, 2011).

SHORTLISTING RATIONALE

3.2.10 This measure was shortlisted because kittiwake productivity is known to be affected by poor food availability (Oro & Furness, 2002; Carroll *et al.*, 2017), thus increasing food availability through directed offal discards would be a targeted, technically feasible way of increasing food availability near kittiwake breeding sites.



INITIAL NEXT STEPS

3.2.11 Next steps for this compensation measure would be to conduct literature research into the effectiveness and delivery mechanism of this measure. In addition, it will be important to investigate any potential negative side effects, in particular effects on non-target species and the wider food chain. Should this measure be deemed feasible after those investigations, engagement with the fishing industry should be commenced, alongside site selection for implementation. Furthermore, the delivery of alternative food resources (such as whole sandeel via purchased quota fished on behalf of the measure) could be investigated.

PREY HABITAT ENHANCEMENT

OPTION INFORMATION

3.2.12 This measure consists of improving or creating new nursery habitats to enhance fish populations and kittiwake prey availability, thereby improving kittiwake productivity.

SHORTLISTING RATIONALE

3.2.13 This measure was shortlisted because of its technical feasibility, as there are well-established techniques for carrying out habitat enhancement and creation for features that are known to provide important nursery resources such as seagrass. The measure also scored high on environmental value; seagrass habitat creation could bring benefits to a wide variety of marine species. Kittiwake use shallow coastal waters with seagrass as foraging habitat, and more generally are known to feed on the fish species that are supported by seagrass sites (Unsworth & Butterworth, 2021).

INITIAL NEXT STEPS

3.2.14 Further research into the links between important nursery, fish and seabird breeding and/or populations sizes is needed. In addition, selection of potential sites for seagrass creation or restoration needs to be commenced, and potential delivery partners and stakeholders identified and contacted.

CROW CONTROL

OPTION INFORMATION

3.2.15 This compensation option would consist of managing local crow populations near kittiwake breeding sites in order to reduce predation of eggs and chicks, increasing productivity.

SHORTLISTING RATIONALE

3.2.16 This option was shortlisted as it scored high on technical feasibility, specificity and potential environmental value. It is however worth noting that despite scoring high overall and thus being shortlisted, it scored low on effectiveness, as there is only limited evidence found to date on crow predation being a potential limiting factor for kittiwake.



INITIAL NEXT STEPS

3.2.17 It will need to be determined whether crow predation is a likely limiting factor at any known breeding sites in order to understand if crow control has the potential to boost kittiwake productivity. Should it be decided that this option will be investigated further, this work can take place as a combination of literature research and consultation with local experts and site managers. There is the potential for this measure to be delivered in the proximity of FFC SPA.

DISTURBANCE REDUCTION

OPTION INFORMATION

3.2.18 Disturbance reduction measures include alternative trail development, signage installation and/or warden funding. The aim of these measures is to reduce anthropogenic disturbance at nest sites to improve kittiwake breeding success.

SHORTLISTING RATIONALE

3.2.19 This measure was shortlisted because kittiwake are known to be sensitive to anthropogenic disturbance (e.g. Sandvik & Barret, 2001), and there is evidence for the effectiveness of disturbance-reducing measures from research at bird breeding sites (e.g. Allbrook & Quinn, 2020; Dowling & Weston, 1999). Implementing measures to reduce disturbance are generally technically straightforward (e.g. installing signs, hiring and training wardens), and long-term planning and management was deemed highly feasible.

INITIAL NEXT STEPS

3.2.20 Next steps for this measure will be to identify sites where disturbance could be reduced, for example through literature review and consultation with site managers. It will also be key to ensure the measures are designed and sited in a way that ensures disturbance reduction is implemented above and beyond standard site management requirements, as to ensure the compensation measure provides additionality.

3.3 GANNET

3.3.1 The following gannet compensation options scored green as part of the RAG shortlisting procedure, and are thus taken forward to the shortlist:

- > Artificial nest sites
- > Directed offal discards
- > Bycatch reduction
- > Plastic waste removal from colonies
- > Prey habitat enhancement

ARTIFICIAL NEST SITES

3.3.2 This option would consist of increasing the number of available gannet breeding spaces by creating an artificial nest site, either by building a new onshore or offshore structure, or by repurposing an existing offshore structure (e.g. a defunct rig).



SHORTLISTING RATIONALE

3.3.3 This measure was shortlisted based on the fact that the extent of implementation and long-term planning are deemed feasible, and there is a lack of suitable nesting locations within England.

INITIAL NEXT STEPS

3.3.4 Further research will need to be done into the effectiveness of artificial nesting in gannet, including exploring artificial nest site design, and likely rates of recruitment, breeding success and immigration. Site selection of artificial nest sites also needs to be commenced.

DIRECTED OFFAL DISCARDS

OPTION INFORMATION

3.3.5 The aim of directed offal discarding is to improve gannet food availability and productivity by working with the fishing industry to discard fisheries offal close to colonies and away from fishing activities.

SHORTLISTING RATIONALE

3.3.6 This measure was shortlisted as gannet are known to feed on discards (Patrick *et al.* 2015; Votier *et al.* 2010), thus increasing food availability through directed offal discards could be a targeted, technically feasible way of increasing food availability near gannet breeding sites.

INITIAL NEXT STEPS

3.3.7 Whilst there is evidence showing that discards are important in the gannet diet, it is not clear at this stage if, and to what extent, discard feeding could help improve productivity at specific UK breeding sites. Further literature research is needed to better map out the benefits and costs of discard feeding, in particular in the context of gannet productivity, to fully understand whether discard feeding can be a feasible compensation measure. In addition, it will be important to investigate any potential negative side effects, in particular effects on non-target species and the wider food chain. Should this measure be deemed feasible after those investigations, engagement with the fishing industry should be commenced, alongside site selection for implementation. Furthermore, the delivery of alternative food resources (such as whole sandeel via purchased quota fished on behalf of the measure) can be investigated.

BYCATCH REDUCTION

OPTION INFORMATION

3.3.8 Bycatch reduction consists of working with the fishing industry to install technology on fishing gear to reduce gannet bycatch, and thus increase survival rates.

SHORTLISTING RATIONALE

3.3.9 This measure was shortlisted because gannet bycatch is a well-established issue, in particular in longline fisheries (Northridge *et al.*, 2020). Existing technologies to reduce bycatch in longline fisheries are available, thus ensuring the compensation measure is technologically feasible.



INITIAL NEXT STEPS

3.3.10 Data availability on site-specific bycatch rates of gannets in UK waters is limited, and further work on site selection is thus needed to identify locations at which implementation of this measure is likely to bring the greatest benefits. In addition, further study or trial into the effectiveness of different bycatch reduction methods may be needed. Should suitable candidate sites and technologies be identified, engagement with the fishing industry and other stakeholders is to be commenced.

PLASTIC WASTE REMOVAL FROM COLONIES

OPTION INFORMATION

3.3.11 The aim of the removal of plastic waste from colonies is to increase gannet survival by reducing mortality from entanglement. It would be delivered through manual removal of plastic waste at breeding sites.

SHORTLISTING RATIONALE

3.3.12 This measure was shortlisted because the long-term planning, timing and extent of implementation were deemed highly feasible. In addition, the removal of plastic waste was deemed generally technically feasible, although potential effectiveness scored lower. This is due to the fact that whilst plastic waste can feasibly be removed from parts of colonies, where plastic is embedded in nests it can often not be removed without causing structural damage.

INITIAL NEXT STEPS

3.3.13 Further work is needed to understand whether there are currently accessible sites which could benefit from plastic waste removal, as well as understanding to the benefits when removal cannot be completed within the nests themselves. This could be completed through initial online research and engagement with local experts. Should potentially suitable sites be identified, further local stakeholder engagement should then be commenced.

PREY HABITAT ENHANCEMENT

OPTION INFORMATION

3.3.14 This measure consists of improving or creating new seagrass habitats to increase fish populations and seabird food availability, thereby increasing gannet productivity.

SHORTLISTING RATIONALE

3.3.15 This measure was shortlisted because of its technical feasibility, as there are well-established techniques for carrying out seagrass habitat creation. The measure also scored high on environmental value; seagrass habitat creation could bring benefits to a wide variety of marine species. Gannet are known to feed on the fish species that are supported by seagrass sites (Unsworth & Butterworth, 2021), but further work to understand the links between seagrass, fish and seabird breeding and/or populations sizes would be beneficial to better understand the scale of the benefits that this measure may deliver.



INITIAL NEXT STEPS

3.3.16 As outlined above, further research into the links between seagrass, fish and seabird breeding and/or populations sizes is needed. In addition, selection of potential sites for seagrass creation or restoration needs to be commenced, and potential delivery partners and stakeholders identified and contacted.

3.4 LESSER BLACK-BACKED GULL

3.4.1 The following lesser black-backed gull compensation options scored green as part of the RAG shortlisting procedure, and are thus taken forward to the shortlist:

- > Supplementary feeding
- > Predator exclusion fencing
- > Predator management
- > Disturbance reduction
- > Habitat creation

SUPPLEMENTARY FEEDING

OPTION INFORMATION

3.4.2 This option consists of providing supplementary food near or at lesser black-backed gull breeding sites, with the aim of increasing productivity.

SHORTLISTING RATIONALE

3.4.3 This option was shortlisted because it is deemed technically feasible, and food availability is a known limiting factor for lesser black-backed gull, and there is evidence for the effectiveness of supplementary feeding (Butness *et al.*, 2010; Hiom *et al.* 1991).

INITIAL NEXT STEPS

3.4.4 Further literature research is needed to better map out the benefits and costs of supplementary feeding in lesser black-backed gull. It will be important to investigate any potential negative side effects, in particular effects on non-target species and the wider food chain.

PREDATOR EXCLUSION FENCING

OPTION INFORMATION

3.4.5 This compensation option consists of erecting predator-proof fencing around a breeding colony, with the aim of reducing nest predation and thereby increasing breeding success.

SHORTLISTING RATIONALE

3.4.6 This measure was selected as it is technically feasible, with existing technology in place, and is known to be effective for lesser black-backed gull (e.g. Davis *et al.* 2018).



INITIAL NEXT STEPS

- 3.4.7 A key next step for this measure is to identify potential sites where predator-exclusion fencing could be installed, as options within AOE SPA itself may be fully taken up by other developers. Options could include delivering this measure in the proximity of AOE SPA, or within or outside another SPA site. It will also be key to ensure that fencing is implemented in a way that goes above and beyond standard site management requirements, as to ensure the compensation measure provides additionality. Following the exploration of potential sites, stakeholder engagement is to be commenced.

PREDATOR MANAGEMENT

OPTION INFORMATION

- 3.4.8 Predator management covers the lethal and non-lethal control of nest predators of lesser black-backed gull, with the aim of increasing colony productivity.

SHORTLISTING RATIONALE

- 3.4.9 This measure was selected based on its technical feasibility and effectiveness; predator control is used widely across conservation projects, and lesser black-backed gull colonies are known to be impacted by predation (e.g. Davis *et al.* 2018).

INITIAL NEXT STEPS

- 3.4.10 Next steps will consist of identifying (SPA and non-SPA sites) lesser black-backed gull colonies which could benefit from predator management, as well as engaging with stakeholders, identifying appropriate management techniques and estimating the necessary scale of implementation. Similar to predator fencing, the predator control measures should go above and beyond standard site management requirements, as to ensure the compensation measure provides additionality.

DISTURBANCE REDUCTION

OPTION INFORMATION

- 3.4.11 Disturbance reduction measures include for example alternative trail development, signage installation and/or warden funding. The aim of these measures is to reduce anthropogenic disturbance at nest sites to improve lesser black-backed gull breeding success.

SHORTLISTING RATIONALE

- 3.4.12 There is evidence for the effectiveness of disturbance-reducing measures from research at bird breeding sites (e.g. Allbrook & Quinn, 2020; Dowling & Weston, 1999). Implementing measures to reduce disturbance are generally technically straightforward (e.g. installing signs, hiring and training wardens), and long-term planning and management was deemed highly feasible.



INITIAL NEXT STEPS

3.4.13 Next steps for this measure will be to identify sites where disturbance is a concern, for example through literature review and consultation with site managers. It will also be key to ensure the measures are designed and sited in a way that ensures disturbance reduction is implemented above and beyond standard site management requirements, as to ensure the compensation measure provides additionality.

HABITAT CREATION

OPTION INFORMATION

3.4.14 Habitat creation consists of the creation (or potentially re-creation/restoration) of lesser black-backed gull breeding habitat, with the aim of increasing the breeding population size.

SHORTLISTING RATIONALE

3.4.15 This measure was shortlisted as habitat creation is deemed technically feasible and effective and could be delivered at scale. To date the advice from NE has been to explore the options for this to be secured on land adjacent to but outside the boundary of AOE SPA.

INITIAL NEXT STEPS

3.4.16 Initial next steps would include the identification of sites where a shortage of suitable habitat exists, and to start engagement with the relevant stakeholders.

3.5 SANDBANKS

3.5.1 The following sandbank compensation options scored green as part of the RAG shortlisting procedure, and are thus taken forward to the shortlist:

- > Extending a SAC
- > Redundant infrastructure removal
- > Marine debris removal
- > Marine debris removal awareness and engagement

EXTENDING A SAC

OPTION INFORMATION

3.5.2 This option refers to changing the boundary (extending the area) of an existing SAC designated for sandbanks to include an additional area of qualifying sandbank habitat.

SHORTLISTING RATIONALE

3.5.3 This measure will demonstrate that any sandbank habitat loss is offset, or compensated for, by increasing the area of designated sandbanks within the region which will in turn ensure that legal protection is afforded to the newly designated area thereby maintaining the ecological coherence of the sandbank network in the region. It is also considered to be of high environmental value to other species of conservation importance.



INITIAL NEXT STEPS

3.5.4 Although this is considered to be a feasible option as European marine site extensions have taken place in the past (see Outer Thames Estuary SPA extension¹), there is considerable uncertainty around which site (if not M&LS SAC) is suitable for extension and the relevant administrative/legal processes to initiate following the UK's Exit from the EU. This is likely to be an industry-wide collaborative effort so initial identification of data sets showing suitable sandbank areas are required, as well as engagement with stakeholders, regulators and other developers.

REDUNDANT INFRASTRUCTURE REMOVAL

OPTION INFORMATION

3.5.5 This option refers to the removal of redundant infrastructure (i.e., a pipeline no longer in use) that is laid on the surface of sandbank habitat within a SAC designated for sandbanks in the region (if not M&LS SAC).

SHORTLISTING RATIONALE

3.5.6 This measure will demonstrate that any sandbank habitat loss is offset, or compensated for, by reinstating an area (freeing up a previously lost area) of qualifying sandbank habitat within the region, thereby maintaining the ecological coherence of the sandbank network. This is additional to the requirements of any existing site management and is considered to be technically deliverable before the effects of habitat loss is evident. Furthermore, it is expected to have a beneficial effect on the local hydrodynamic regime.

INITIAL NEXT STEPS

3.5.7 Infrastructure within the wider sandbank system of the southern North Sea that is suitable for removal needs to be identified, as well as an understanding of its ownership and legal requirements or restrictions on its removal. Any habitat disturbance effects should also be investigated in the instance that any structure has been colonised as well as engagement with stakeholders, regulators and other seabed users/owners.

MARINE DEBRIS REMOVAL

OPTION INFORMATION

3.5.8 This option refers to the removal of marine litter within the boundary of M&LS SAC.

¹ <https://www.gov.uk/government/consultations/outer-thames-estuary-special-protection-area-extension-comment-on-proposals>



SHORTLISTING RATIONALE

3.5.9 This measure will demonstrate that any sandbank habitat loss is offset, or compensated for, by reinstating an area of qualifying sandbank habitat within the region, thereby maintaining the ecological coherence and general health of the sandbank network. This is additional to the requirements of any existing site management and is technically deliverable before the effects of habitat loss is evident. Furthermore, it is expected to achieve broader marine net gain; nevertheless, it is noted that NE are not supportive of this measure, but it has been given weight in this assessment owing to the precedent of including it in the DCOs of previous projects.

INITIAL NEXT STEPS

3.5.10 Debris within the SAC needs to be identified to understand if the required volume of litter or waste is present to offset any habitat loss impacts and whether this would be an ongoing operation. Early engagement with stakeholders, regulators and other seabed users/owners is required as it is noted that an agreement on quantities and timescales for marine debris removal has been challenging for projects delivering compensation to sandbank habitats.

MARINE DEBRIS REMOVAL AWARENESS AND ENGAGEMENT

OPTION INFORMATION

3.5.11 This option aims to fund efforts to reduce the volume of debris/litter/fishing equipment being discharged into the marine environment. Awareness and engagement will likely take place in the form of events with the general public and production of information leaflets, as well as information on improved disposal and recycling.

SHORTLISTING RATIONALE

3.5.12 This option supports the *Marine debris removal* option which will demonstrate that any sandbank habitat loss is offset, or compensated for, by reinstating an area (freeing up a previously lost area) of qualifying sandbank habitat within the region, thereby maintaining the ecological coherence and general health of the sandbank network. This is additional to the requirements of any existing site management and is technically deliverable before the effects of habitat loss is evident. Furthermore, it is expected to achieve broader marine net gain.

INITIAL NEXT STEPS

3.5.13 Sources of debris within the SAC need to be identified to target specific users or groups to adequately offset any habitat loss impacts and avoid sabotaging the efforts of debris removal actions. An understanding of whether this would be an ongoing operation is needed as well as the organisations to collaborate with.



4. CONCLUSIONS

- 4.1.1 This report outlined the shortlisting process for identifying potential compensation measures for VE OWF while also providing a high-level rationale for shortlisted options. It is important to note that not all measures are likely to be taken forward from the shortlisting: rather, the approach to date provides a basis to determine feasible measures which will be investigated by the project in further detail. Further development of VE specific compensation packages will also take into account and support developments in strategic compensation options that may become available through engagement with other project developers.
- 4.1.2 The following kittiwake compensation options scored green as part of the RAG shortlisting procedure, and were thus taken forward to the shortlist:
- > Artificial nest sites
 - > Fisheries management
 - > Directed offal discards
 - > Prey habitat enhancement
 - > Crow control
 - > Disturbance reduction
- 4.1.3 The following gannet compensation options scored green as part of the RAG shortlisting procedure, and were thus taken forward to the shortlist:
- > Artificial nest sites
 - > Directed offal discards
 - > Bycatch reduction
 - > Plastic waste removal from colonies
 - > Prey habitat enhancement
- 4.1.4 The following lesser black-backed gull compensation options scored green as part of the RAG shortlisting procedure, and were thus taken forward to the shortlist:
- > Supplementary feeding
 - > Predator exclusion fencing
 - > Predator management
 - > Disturbance reduction
 - > Habitat creation
- 4.1.5 The following sandbank compensation options scored green as part of the RAG shortlisting procedure, and were thus taken forward to the shortlist:
- > Extending a SAC
 - > Redundant infrastructure removal
 - > Marine debris removal
 - > Marine debris awareness and engagement



5. NEXT STEPS

- 5.1.1 For the shortlisted options deemed most feasible, implementation roadmaps outlining the steps towards delivery of the compensation measure will be created. In addition to the “initial next steps” outlined in this document for each measure, literature research will be conducted to fill further knowledge gaps, and where relevant, site selection and stakeholder engagement will commence.



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APPENDIX A. RED AND AMBER-LISTED OPTIONS

This appendix provides an overview of the key reasons for not deeming red- and amber-listed compensation options feasible for further consideration.

KITTIWAKE

- A.1 Exclusion of great skua: Great skua predation is unlikely to be a limiting factor for kittiwake populations, and as such, this option was not deemed suitable compensation option.
- A.2 Oil spill management improvements: This option, consisting of improving the management of oil spills to reduce gull mortalities, was deemed unsuitable for shortlisting due to the fact that there are unlikely to be substantial improvements that can be made to current regulations.
- A.3 Construction of storm defences near colony: The construction of storm defences near a colony was proposed as a potential measure to reduce breeding season mortalities. However, this option was not suitable for shortlisting due to a lack of evidence on both effectiveness and technical feasibility.
- A.4 Kittiwake bycatch reduction: The installation of equipment or technology to reduce bycatch on fishing vessels was included in the longlist as a potential option to reduce gull mortalities. However, this option was considered unsuitable for shortlisting due to the lack of knowledge on bycatch numbers, and shortage of evidence on appropriate technical designs.
- A.5 Provisioning of nest materials: There is no current evidence on nest materials being a potential limiting factor for breeding kittiwake. Whilst this option could be considered as a supporting measure, for example alongside the installation of artificial nesting structures, it is not considered to be a suitable standalone compensation option.
- A.6 Sandeel alternatives research funding: Sandeel are fished for a variety of human uses, including for producing fishmeal, used to feed for example farmed salmon and pigs. This compensation option consists of funding research and trials into sandeel alternatives for pig and salmon feed, with the aim of reducing demand for sandeel and increasing seabird food availability. This compensation option was not taken forward to the shortlist due to the fact that there are already initiatives focusing on reducing fishmeal use. In addition, this option is unlikely to measurably benefit kittiwake numbers within the timeframe of OWF operation.
- A.7 Mammalian predator management: Mammalian predator management (e.g. predator control), was not deemed a viable compensation option due to a lack of evidence that mammalian predation is a key issue for the kittiwake population.
- A.8 Plastic waste removal from colonies: Plastic entanglement is unlikely to be a substantial issue for kittiwake, and as such, this compensation option was considered unsuitable.
- A.9 Peregrine falcon alternative prey enhancement: Enhancing the availability of alternative prey for peregrine falcon to reduce predation pressures on kittiwake was not a shortlisted option due to the indirectness of this measure, which would make it challenging to evidence effectiveness.
- A.10 Watersports engagement: Engagement with the watersports industry was longlisted as a potential compensation option to reduce disturbance to gulls. This option was deemed not viable as a standalone compensation measure due to the difficulties of quantifying the impact and effectiveness of such a measure.
- A.11 Supplementary feeding: Supplementary feeding was considered to be too indirect a measure, however, this option could be considered as a supporting measure alongside other compensation options.



- A.12 Engagement funding on plastics and marine litter: Funding engagement initiatives to reduce plastics and marine litter was longlisted as a potential compensation option to reduce entanglement mortality. This option was deemed not viable as a standalone compensation measure due to the difficulties of quantifying the impact and effectiveness of such a measure.
- A.13 Marine SPA creation: The creation of a marine SPA was proposed as a potential measure to increase protections of kittiwake foraging grounds. However, due to the technical and regulatory challenges involved, this option was not deemed suitable for shortlisting.
- A.14 Peregrine falcon diversionary feeding: Diversionary feeding of peregrine falcon to reduce predation pressures on kittiwake was not a shortlisted option due to the indirectness of this measure, which would make it challenging to evidence effectiveness.

GANNET

- A.15 Oil spill management improvements: This option, consisting of improving the management of oil spills to reduce gull mortalities, was deemed unsuitable for shortlisting due to the fact that there are unlikely to be substantial improvements that can be made to current regulations.
- A.16 Provisioning of nest materials: Providing nest materials for breeding gannet was deemed too indirect to provide a suitable compensation option and was thus not shortlisted. This option could however be considered as a supporting measure alongside other compensation options.
- A.17 Sandeel alternatives research funding: Sandeel are fished for a variety of human uses, including for producing fishmeal, used to feed for example farmed salmon and pigs. This compensation option consists of funding research and trials into sandeel alternatives for pig and salmon feed, with the aim of reducing demand for sandeel and increasing seabird food availability. This compensation option was not taken forward to the shortlist due to the fact that there are already initiatives focusing on reducing fishmeal use. In addition, this option is unlikely to measurably benefit gannet numbers within the timeframe of OWF operation.
- A.18 Supplementary feeding: Supplementary feeding was considered to be too indirect a measure, however, this option could be considered as a supporting measure alongside other compensation options.
- A.19 Disturbance reduction: Disturbance reduction (e.g. warden funding, alternative trail development, signage) was longlisted as a measure to improve gannet breeding success. Whilst there is evidence of this species being sensitive to disturbance, and disturbance reduction measures being effective (Allbrook & Quinn, 2020), this option was not shortlisted. This was due to the fact that it is unlikely that sites to deliver disturbance reduction for gannet are available, with disturbance reduction measures being already in place at UK gannetries with (nearby) human presence.
- A.20 Fisheries management: This option comprises of reducing fishing pressures to increase fish stocks and thus food availability for seabirds. This could be achieved through fisheries closures, reductions in fisheries quota, or fisheries quota purchases. However, as gannet is known to prey-switch, and shows low vulnerability to the abundance of for example sandeel (Furness and Tasker, 2000), a reduction in fishing effort for specific fish species is thus unlikely to give enough benefits to provide sufficient compensation. However, any benefits to gannet could be taken into consideration should this compensation option be taken forward for other species.
- A.21 Aquaculture entanglement reduction: This option consists of reducing entanglement of gannet in aquaculture netting. This option was not deemed feasible as most entanglement issues are related to discarded aquaculture waste, and there is



therefore only limited site-specific opportunities, unlikely to provide sufficient compensation.

- A.22 Enhancing colony establishment: Enhancing colony establishment, for example through the use of playbacks and decoys, was deemed to be too indirect a measure to be shortlisted as a standalone compensation option. However, colony enhancement techniques could be used alongside other compensation options where relevant.
- A.23 Ending gannet chick harvest: Legal harvesting of gannet chicks takes place annually on the Scottish island of Sula Sgeir (Trinder, 2016). The compensation option of ending chick harvest, with the aim of increasing population growth, was deemed unviable due to the cultural importance of the annual harvest tradition.
- A.24 Watersports engagement: Engagement with the watersports industry was longlisted as a potential compensation option to reduce disturbance to gulls. This option was deemed not viable as a standalone compensation measure due to the difficulties of quantifying the impact and effectiveness of such a measure.
- A.25 Engagement funding on plastics and marine litter: Funding engagement initiatives to reduce plastics and marine litter was longlisted as a potential compensation option to reduce entanglement mortality. This option was deemed not viable as a standalone compensation measure due to the difficulties of quantifying the impact and effectiveness of such a measure.
- A.26 Marine SPA creation: The creation of a marine SPA was proposed as a potential measure to increase protections of foraging grounds. However, due to the technical and regulatory challenges involved, this option was not deemed suitable for shortlisting.

LESSER BLACK-BACKED GULL

- A.27 Herring gull control: This compensation option consists of controlling herring gull numbers in order to reduce competition and nest predation. This option was deemed infeasible as herring gull are red-listed and furthermore are no longer included under general licences for lethal control (Natural England, 2021).
- A.28 Oil spill management improvement: This option, consisting of improving the management of oil spills to reduce gull mortalities, was deemed unsuitable for shortlisting due to the fact that there are unlikely to be substantial improvements that can be made to current regulations.
- A.29 Artificial nest sites: The provision of artificial nest sites to increase breeding numbers of lesser black backed gull was not viewed as a feasible compensation option at this stage, largely due to the lack of evidence on technical feasibility and effectiveness of such a measure for this species.
- A.30 End lesser black-backed gull culling: Ending lesser-black backed gull culling was considered not to be a viable compensation option due to the fact that lesser black-backed gull, as of 2019, is no longer included in general licences to kill. As such, there is thought to be little scope to reduce numbers culled (Natural England, 2021).
- A.31 Fisheries management: This option comprises of reducing fishing pressures to increase fish stocks and thus food availability for seabirds. This could be achieved through fisheries closures, reductions in fisheries quota, or fisheries quota purchases. Whilst food availability is thought to be a limiting factor for lesser black-backed gull (Bukacinski *et al.*, 1998; JNCC, 2021), the species feeds on a wide range of prey (Ross-Smith *et al.*, 2014) and a reduction in fishing effort for specific fish species is thus unlikely to give enough benefits to provide sufficient compensation.



- A.32 Air space user engagement: Engagement with air space users was longlisted as a potential compensation option to reduce disturbance to lesser black-backed gulls. This option was deemed not viable due to a lack of evidence of effectiveness.
- A.33 Lesser black-backed gull bycatch reduction: The installation of equipment or technology to reduce bycatch (e.g. deterrents) on fishing vessels was included in the longlist as a potential option to reduce gull mortalities. However, this option was considered unsuitable for shortlisting due to the lack of knowledge on bycatch numbers, and shortage of evidence on appropriate technical designs.
- A.34 Marine SPA creation: The creation of a marine SPA was proposed as a potential measure to increase protections of for example lesser black-backed gull foraging grounds. However, due to the technical and regulatory challenges involved, this option was not deemed suitable for shortlisting.

SANDBANKS

- A.35 Maintaining sediment budget (use of agitation dredging only or commitment to depositing material within M&LS SAC): the two options identified for ensuring sediment is retained within the system will not likely compensate for the loss of sandbank habitat since they only ensure that there is no AEol, rather than being a measure that will deliver additional habitat as a consequence of AEol (i.e. they are mitigation options – not compensation options). In addition to not being effective, these options are not considered to be deliverable at an appropriate extent/within a measurable timeframe.
- A.36 Management of navigational dredging methods (sole use of agitation dredging): this option aims to ensure that sediment is retained within the system; however, this does not compensate for the loss of sandbank since it only ensures that there is no AEol, rather than being a measure that will deliver additional habitat as a consequence of AEol (i.e. they are mitigation options – not compensation options) and the ports and shipping industry already use this as standard best practice. In addition to not being effective, this option is not considered to be deliverable at an appropriate extent/within a measurable timeframe.
- A.37 Establishing new sandbank areas: as this would be an offsite intertidal measure it is not directly connected to areas of Annex I sandbank as there is no evidence that this will be of benefit to this or any other similar feature. Also, maintaining habitats ensures that there is no AEol, rather than being a measure that will deliver additional habitat so will neither be effective, nor delivered at an appropriate extent/within a measurable timeframe.
- A.38 Microplastic and contaminant loading research: as this would also be an offsite measure it is not necessarily specifically connected to areas of Annex I sandbank and does not address the loss of sandbank habitat. Nevertheless, this may be a useful aspiration to include under marine net gain.
- A.39 Removal of marine non-native species: does not address the loss of sandbank habitat and measuring/monitoring success of this measure is impossible. Nevertheless, this may be a useful aspiration to include under marine net gain.
- A.40 Improving hydrodynamics: this option will not replace sandbank habitat that is lost and there are currently no informed methods to monitor success of this measure.
- A.41 Improving water quality: since most marine pollutants originate from the terrestrial environment this would also be an offsite measure and is therefore not necessarily specifically connected to areas of Annex I sandbank. Furthermore, it does not address the loss of sandbank habitat. Nevertheless, this may be a useful aspiration to include under marine net gain.
- A.42 Fisheries management (spatial reduction or development of new management mechanism): the two options under this category do not specifically compensate for



habitat loss, rather they address disturbance to habitats. Furthermore, spatial reductions/restrictions or exclusion zones are part of standard site management and so it is difficult to demonstrate additionality unless a new fisheries management mechanism could be developed. This is potentially feasible but not likely to be achievable within the required timeframe.

- A.43 Facilitating lost fishing gear retrieval: this option was proposed as a potential measure to reinstate areas of sandbank habitat to offset loss and to improve general sandbank health. However, due to the technical challenges involved, this option was not deemed suitable for shortlisting.
- A.44 Marine activity restrictions: due to the high level of anthropogenic activity in area it is unlikely that all activities can be reasonably restricted. Furthermore, this option is not specific to offsetting habitat loss, so it has not been shortlisted.
- A.45 Aggregate dredging activity management: engaging with the aggregates industry and The Crown Estate would be very complex and difficult with regard to reducing aggregate dredging activities given that licences are active within M&LS SAC until 2035. It would also be difficult to over-compensate via this option. Therefore, this option has not been shortlisted.



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