East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 9 Submissions

Applicant: East Anglia TWO and East Anglia ONE North Limited
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Applicable to East Anglia ONE North and East Anglia TWO

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Glossary of Acronyms

ACAP	Agreement on the Conservation of Albatrosses and Petrels
DCO	Development Consent Order
DML	Deemed Marine Licence
ExA	Examining Authority
HDD	Horizontal Directional Drilling
RSPB	Royal Society for the Protection of Birds
SoCG	Statement of Common Ground
SPA	Special Protected Area
SPR	ScottishPower Renewables
UK	United Kingdom

Glossary of Terminology

Applicant	East Anglia ONE North Limited / East Anglia TWO Limited
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia ONE North / East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
HDD temporary working area	Temporary compounds which will contain laydown, storage and work areas for HDD drilling works.
Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Meteorological mast	An offshore structure which contains meteorological instruments used for wind data acquisition.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.
Monitoring buoys	Buoys to monitor *in situ* condition within the windfarm, for example wave and metocean conditions.
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.
Offshore development area	The East Anglia ONE North / East Anglia TWO windfarm site and offshore cable corridor (up to Mean High Water Springs).
Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.

Offshore electrical platform	A fixed structure located within the windfarm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Offshore platform	A collective term for the construction, operation and maintenance platform and the offshore electrical platforms.
Platform link cable	Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Transmission DML	The deemed marine licence in respect of the transmission assets set out within Schedule 14 of the draft DCO.

1 Introduction

1. This document is applicable to both the East Anglia ONE North and East Anglia TWO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's (ExA) procedural decisions on document management of 23rd December 2019. Whilst for completeness of the record this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it again for the other project.

2. This document presents the Applicants' comments on the Royal Society for the Protection of Birds' (RSPB) Deadline 9 submission (REP9-071).

Point	RSPB Comment	Applicants' Response
1 Introduction		
1	1.1 This representation applies jointly to the development consent order (the DCO) applications by Scottish Power Renewables (the Applicant) for the East Anglia ONE North (EA1N) and East Anglia TWO (EA2) offshore windfarms (collectively "the applications"). 1.2 This submission is the RSPB's combined response to the Applicant's Deadline 8 submissions for each scheme entitled "Offshore Ornithology Without Prejudice Compensatory Measures" (tracker versions, both numbered REP8-090). These represent tracked updates to earlier versions of the same document submitted at Deadline 6 (REP6-045)	Noted
Scope of Written Submission		
2	1.3 This Written Submission covers the following: • Response to Appendixes 1-6: comments where necessary on amendments since Deadline 6;. • Response to Appendix 7: Secondary measure – Ornithological By-catch. 1.4 This submission should be read in conjunction with the RSPB's previous submissions to the Examination, in particular our Deadline 4 submission on the screening of compensation measures (REP4-097) and Deadline 8 submission (REP8-171). This submission also takes account of the RSPB's final position on adverse effect on integrity conclusions that are set out in a final Offshore Statement of Common Ground (SOCG) with the Applicant (REP8-105), submitted at Deadline 8.	Noted. The Applicants have responded to the RSPB Deadline 4 submission at REP5-016 and Deadline 8 submission at REP9-020.
2 Response to Appendices 1-6 (REP8-090, EA1N and EA2)		
3	**Appendix 1: Kittiwake compensatory measures (artificial nesting sites)**	

Point	RSPB Comment	Applicants' Response
4	2.2 The RSPB has reviewed the Applicant's amendments and consider that they represent no substantive change to the proposals set out in REP6-045 i.e. minor clarifications of approach in section 5.4.3 (Summary and Roadmap for Delivery of Compensation (if required)). Therefore, the RSPB refers the Examining Authority to its comments at paragraphs 3.8-3.10 of REP8-171.	The Applicants updated the ***Offshore Ornithology Without Prejudice Compensation Measures*** document at Deadline 8 (REP8-090) to include more detail following meetings with Natural England and Defra. In drafting DCO schedule 18, the Applicants have ensured that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the potential effects of the Projects (noting that the extremely low numbers that would need to be offset for the Projects even on the basis of NE's worst case assessment conclusions means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail as the specifics of the measures are developed and agreed with stakeholders, Government, partners etc. The Applicants note that identifying suitable candidate locations, obtaining the necessary rights (land, access, etc.) and implementing the measures are all considered to be feasible undertakings that the Applicants could achieve within the relatively short time-frame that would be required. The Applicants maintain their position that no further detail is required at this time.
Appendix 2: Gannet compensatory measures (encourage establishment of new colony/artificial nest sites)		

Point	RSPB Comment	Applicants' Response
5	2.3 The RSPB has reviewed the Applicant's amendments and consider that they represent no substantive change to the proposals set out in REP6-045 i.e. minor clarifications of approach in section 6.4.3 (Summary and Roadmap for Delivery of Compensation (if required)).	The Applicants maintain their position that no further detail is required at this time.
6	2.4 We have the following brief comments to make on the following paragraphs: • **Paragraph 111:** the Applicant refers to the possible removal of plastic waste to reduce the risk of avoidable mortality at breeding gannet colonies. The RSPB makes the following observation based on its experience at the RSPB's Grassholm reserve and Special Protection Area (Pembrokeshire): ○ At Grassholm, the marine plastic on the island is embedded into nearly every gannet nesting pedestal. To remove it would destroy most of the c.36,000 nests and with it the fabric of the colony. There is a high risk the colony would desert and logistically it would not be possible to carry out such an operation; ○ The impact plastics are having on the colony is negligible – out of a population of 72,000 birds (36k pairs) the RSPB cuts free around 50 birds a year on average (<95% fledglings) with roughly another 50 that are recorded as having died earlier in the season – i.e. ~0.15% of the population impacted. At Grassholm, the RSPB is already carrying out this measure at the end of the breeding season. This allows access to the whole colony in a way that avoids the risk of disturbance to the colony and the associated risk of desertion.	The removal of plastic waste has not been put forward as a proposed compensation measure at this time, it is mentioned as a potential line of inquiry in the future because the Applicants consider that there may be merit in it. Whilst it would not be an appropriate measure at Grassholm, given that the RSPB already carry out this measure at the end of the breeding season, it may be appropriate at other colonies where this activity is not undertaken. Particularly so if marine plastic at other colonies results in similar numbers of birds dying; on the basis that 100 fledglings would equate to around 50 adults, it can be seen that removing this source of mortality at a colony could offset over 15% of the total in-combination mortality and would be almost double that estimated for East Anglia ONE North and East Anglia TWO combined (27).
7	• **Paragraph 121:** the RSPB notes the additional text relating to the establishment of nesting colonies and refers the Examining Authority to its comments at paragraphs 3.11-3.14 of REP8-171.	The Applicants maintain their position and consider that the updates made to the measure within the ***Offshore Ornithology Without Prejudice Compensation Measures*** document (REP8-090) cover the RSPB's points.

Point	RSPB Comment	Applicants' Response
Appendices 3 and 4: Guillemot and razorbill compensatory measures (rat eradication)		
8	2.5 The RSPB has reviewed the Applicant's amendments and consider that they represent no substantive change to the proposals set out in REP6-045 i.e. minor clarifications of approach in the sections entitled "Summary and Roadmap for Delivery of Compensation (if required)". 2.6 We note the Applicant has added Tables 1 (Appendix 3) and 2 (Appendix 4) showing the rank order of islands identified by Stanbury *et al* (2017) for which rat eradication would offer benefits to breeding seabirds. We have the following brief comments on the tables: • Please refer to the RSPB's comments at paragraphs 3.15-3.20 in REP8-171; • The islands are identified as suited to rat eradication for the benefit of breeding seabirds in general. This does not indicate they are suitable to benefit guillemot or razorbill (see REP8- 171); ○ The Shiants (Rank 4a in both tables) have already been subject to an eradication scheme; ○ Herm (Rank 25) is located in the Channel Islands and therefore outside UK jurisdiction.	The Applicants maintain their position that no further detail is required at this time. The Applicants note the RSPB's comments on Shiants and Herm and would continue discussions on the most appropriate colony to implement the compensation measure if it is deemed to be required by the Secretary of State
Appendix 5: breeding lesser black-backed gulls compensatory measures (predator fencing)		
9	The RSPB has reviewed the Applicant's amendments and consider that they represent no substantive change to the proposals set out in REP6-045 i.e. minor clarifications of approach in section 9.4.3 (Summary and Roadmap for Delivery of Compensation (if required)).	The Applicants maintain their position that no further detail is required at this time.
10	We note that at paragraph 227, the Applicant refers to a Natural England approach to Defra with proposals for a strategic compensation option. While the RSPB welcomes the exploration of a strategic approach (see paragraph 2.8 in REP8-171), we note that the	The Applicants consider that the wording of Schedule 18 of the DCO is sufficiently flexible and allows for strategic or collaborative working, whilst

Point	RSPB Comment	Applicants' Response
	initiative cannot be relied upon for the purpose of these examinations as no legal mechanism to secure such an approach has been put forward for consideration.	ensuring that harm caused by the Projects is appropriately compensated for.
Appendix 6: non-breeding red-throated diver compensatory measures (navigation management)		
11	The RSPB has reviewed the Applicant's amendments and while we welcome the additional detail that is now provided, we consider that they represent no substantive change to the proposals set out in REP6-045. Therefore, the RSPB refers the Examining Authority to its comments at paragraphs 3.32-3.35 of REP8-171.	The Applicants maintain their position that no further detail is required at this time.
3 Response to Appendix 7: Secondary measure – Ornithological Bycatch (REP8-090)		
12	**Introduction** Below we set out detailed comments on the Applicant's proposed bycatch compensation measure. Our position can be summarised as follows: • The RSPB's work on bycatch: UK and international; • Comments on Appendix 7.	Noted
The RSPB's work on bycatch: UK and international		
13	3.2 The RSPB, through its hosting of the BirdLife International Marine Programme since 2004, has long running and substantive expertise in mitigating seabird bycatch from both a grassroots and policy perspective. We have successfully pushed for seabird bycatch mitigation requirements in all the major tuna Regional Fisheries Management Organisations and established the 'Albatross Task Force' in South America and southern Africa, which has led to large reductions in seabird bycatch in target fishing fleets. We are active participants in the Seabird Bycatch Working Group of the Agreement on the Conservation of Albatrosses and Petrels (ACAP), helping to review and determine best practice ways to reduce the	The Applicants acknowledge the breadth of knowledge and experience that the RSPB have with regard to seabird by-catch reduction measures. The Applicants therefore recognise the need to work closely with the RSPB to develop this compensation measure if it is deemed to be required by the Secretary of State.

Point	RSPB Comment	Applicants' Response
	impacts of fisheries on seabirds, and in the past eight years have driven efforts to identify technical means of mitigating gillnet bycatch of seabirds. 3.3 The overall context for bycatch work in the UK is familiar across other marine conservation issues: characterised by a lack of data. Most notably, this includes: • Poor understanding of the at-sea distribution of seabirds, but especially in the winter (where there is the suggestion of higher levels of bycatch in static nets based on the limited existing data set); • Limited understanding of small-scale fisheries effort (the majority of the static net fleet – over 1,500 vessels – is <10m in length, with no requirement to carry a Vessel Monitoring System); • Poor observer coverage of the riskiest fleets (longline and static net) for seabird bycatch, sitting at 1-2% and <1% of annual effort respectively. 3.4 The two gear types responsible for the majority of the bycatch recorded in the UK are identified as demersal longlines and static nets. For longlines, ACAP has identified a suite of best practice mitigation measures to reduce bycatch. There is limited evidence for effective implementation of these measures in UK longline fisheries. It should be noted that apart from the fishery that operates offshore of north-west Scotland, there is relatively little effort from longlines elsewhere in the UK. From a meaningful conservation perspective, mitigation efforts (targeted primarily at fulmars) should therefore be invested in the fleet operating in the Atlantic. Static nets, in spite of vastly increased research effort in recent years, do not have an identified suite of effective technical bycatch reduction options[1] and, as such, present substantively bigger challenges in terms of delivering compensatory benefits through reduced bycatch mortality. While BirdLife/RSPB continue to pursue potential options (including development of an above water 'looming eyes'	

[1] For example, see: Field, R., Crawford, R., Enever, R., Linkowski, T., Martin, G., Morkunas. J., Morkune, R., Rouxel, Y and Oppel, S. (2019) High contrast panels and lights do not reduce bird bycatch in Baltic Sea gillnet fisheries. *Global Ecology and Conservation*, 18, https://doi.org/10.1016/j.gecco.2019.e00602

Point	RSPB Comment	Applicants' Response
	deterrent device[2]), the only methods that will guarantee a reduction of seabird bycatch levels is the removal of gillnets.	
Comments on Appendix 7		
14	*Overview* 3.5 Below we set out detailed comments on the Applicant's proposed bycatch compensation measure. Our position can be summarised as follows: • The UK Seabird Bycatch Plan of Action is scheduled to be published by the end of 2021 (so the claim the wind farm proposal will be up and running already is incorrect);	The Applicants query where it is claimed that the windfarm proposal will be up and running before the UK Seabird Bycatch Plan of Action is scheduled to be published. As noted in ***section 11.6*** of REP8-090: "*The Applicant is aware that at time of writing Defra is concluding work on the UK Seabird Plan of Action for 2020/21. The outputs aim to refine estimates of bycatch, improve monitoring and assessment, define best practice in mitigation, and engage on voluntary implementation or regulatory intervention where necessary. It is anticipated therefore that Actions 1 - 4 proposed by the Applicant may have been fully implemented or part-implemented at the time of operation of the EA1N and EA2 projects by the Defra work.*" And again in paragraph 300: "*It is anticipated that Actions 1-4 will already be delivered by the time of the operation of EA1N and EA2 as work nears completion on the UK Seabird Plan of Action*" Therefore, the Applicants do not consider the RSPB assertion to be correct.

[2] See https://www.cleancatchuk.com/mitigation/looming-eye-buoys/; and Rouxel *et al*, in prep

Point	RSPB Comment	Applicants' Response
		Also see Point 11 in ***Table 1*** below.
15	The RSPB considers the logic of the sequenced approach is sound and along the lines that the RSPB would follow. However, its scale and the proposed timescales are wholly unrealistic for a variety of reasons detailed below. Examples include: • Action 2: to be effective, the number of observers would need to be massively scaled up from the single observer proposed; • Action 3: trialing multiple mitigation measures will take longer than the one year suggested.	The Applicants welcome the RSPB's general agreement with the approach. The Applicants updated the measures to include more detail following meetings with Natural England and Defra. In drafting the updated ***Offshore Ornithology Without Prejudice Compensation Measures*** document (REP8-090) and DCO schedule 18, the Applicants have ensured that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the impacts of the Projects (noting that the extremely low numbers required to be offset for the Projects means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail as the specifics of the measures are developed and agreed with regulatory bodies, stakeholders and partners. The Applicants anticipate that Actions 2 and 3 will already be delivered by the time of the operation of the Projects as work nears completion on the UK Seabird Plan of Action in 2021. The Applicants consider that if Actions 2 and 3 would still be required to be delivered by the Applicants, that their focus in the East Anglia area would complement the UK Seabird Plan of Action and that implementing

Point	RSPB Comment	Applicants' Response
		them within the relatively short time-frame would be achievable.
16	The geographic target area is inappropriate. Current evidence suggests East Anglia is not one of the areas considered worth targeting by those experts working in this field;	The proposal to focus on East Anglian fishers is largely a practical one, given the presence of the Applicants' parent company SPR in the region for ten years and the location of the Projects. It is these groups with whom there are existing relationships and engagement mechanisms. If the UK Seabird Plan of Action is published in 2021 as anticipated, through discussion with stakeholders it may be possible to amend this measure to take account of the Plan and potentially encompass other geographies.
17	While continued effort to identify the scale of and potential solutions to bycatch in static net fisheries is imperative, based on current literature, mitigation measures for static net fisheries cannot reasonably guarantee reductions in seabird bycatch levels at this stage, and therefore cannot be relied upon as a compensation measure; Therefore, as currently described, the proposal is not fit for purpose as a possible compensation measure	See point 15 above and Point 3 of ***Table 1*** below.
18	***Detailed comments*** 3.6 We have set out our detailed comments on Appendix 7 in Table 1 below. Due to the limited time available, we have identified the more significant comments only.	See the Applicants' responses in ***Table 1*** below.

Table 1 RSPB's detailed comments on Appendix 7. Secondary measure: Ornithological By-catch

Point	Paragraph	Text	RSPB comments	Applicants' Response
11.1 Overview				
1	**268**	Defra priorities include improving upon these estimates to create a more accurate and representative estimate of by-catch by identifying enhancements to the monitoring programme and the effects of mitigation measures on seabird populations.	The imprecision of the preliminary estimates in Northridge et al. (2020) is a symptom of the current monitoring programme. Current estimates for seabird bycatch mortality are based on very low observer coverage which amounts to <1% total annual UK effort in the static net fleet and 1-2% of total annual UK effort in the longline fleet (see also comment under paragraph 286, bullet 2). It is also important to note that, particularly in the static net fleet, the UK Bycatch Monitoring Programme was designed to record cetacean bycatch, so fleet segments that may impact birds more severely could be missed.	Noted. It is envisaged that through the formation of a by-catch reduction working group, lessons learned from previous studies will be given due consideration to ensure adequate coverage (within the East Anglia region) of the target fleets. In addition, specific geographic areas or fishing vessels to which the relevant species are most likely to be sensitive would, if possible, be targeted for monitoring.
2	**269**	Estimates presented in Northridge et al (2020) suggest guillemot, gannet, gull species, and razorbill would benefit from by-catch reduction action. They report median UK annual by-catch estimates of approximately 50 kittiwake, 4,000 guillemot, 600 gannet and 260 razorbill…	The relative potential benefits of bycatch mitigation across these species is going to differ substantially depending on the gear type and location of intervention (notwithstanding the lack of available mitigation for static net fisheries in the first place) i.e. guillemots	The Applicants acknowledge this and would ensure that through the by-catch reduction working group, the geographic areas and specific vessels targeted for monitoring would be agreed based on those deemed most likely to provide an accurate picture of the potential extent of bycatch

Point	Paragraph	Text	RSPB comments	Applicants' Response
			account for 75% of all bycatch in set nets (Northridge et al. 2020)	(including species variability) throughout the East Anglia region.
11.2 Delivery				
3	**272**	Although the Applicant considers the project- alone effects on guillemot, gannet, gull species, and razorbill (those species vulnerable to by- catch) to be low, the Applicant does note that this low ceiling for Compensation presents an opportunity to progress indirect measures which could have a UK-wide positive effect well beyond that of any other direct Compensation measures available to the Applicant.	This is fundamental; for static net fisheries – where the majority of the species impacted by this development are likely to be caught – we do not have best practice technical measures for minimising bird bycatch. To reduce bycatch this leaves more drastic changes to fishing: e.g. the wholesale replacement of static nets with other gear types (with potential for unintended consequences and requiring substantial investment) or the closure of fisheries in space/time (given the dearth of data, these would likely be designed in a way that results in high economic and social impacts). There is more potential for technical mitigation to reduce bycatch in longlines, though notable that this contributes to a substantially lower proportion of the bycatch totals of these species, and most likely does not have any direct links from the SPA breeding colonies of concern to these projects (Northridge et al. 2020).	Regarding the potential unintended consequences, this is acknowledged by the Applicants in paragraph 274: *the replacement of fishing gear or deployment of new methods is open to random outcomes and associated annual variation.* The Applicants acknowledge the potential difficulties associated with mitigating bycatch from static gears. Therefore, as stated in section 11.4.1 (of REP8-090) the by-catch reduction working group would focus on investigation / development of alternative fishing gear designs / new methods of gear deployment. The aim would be to find alternatives to the currently used gear types. The Applicants' key deliverable in the implementation of the measures is Action 5, the setting up of a gear replacement fund, that enables fishermen to acquire new gear with a reduced or avoided bycatch effect.

Point	Paragraph	Text	RSPB comments	Applicants' Response
4	**275**	Therefore, rather than setting out prospective mortality avoidance numbers and associated population increases, the Applicant assumes that there is potential for a UK-wide beneficial effect well beyond the project-alone impacts **if** suitable by-catch mitigation is identified and can be adopted widely… [emphasis added]	This 'if' is a huge 'if'. The RSPB (and many others) have spent 8 years looking for effective broad-species technical mitigation measures (akin to bird-scaring lines in longline fleets) and have been unsuccessful. The RSPB remains hopeful that it is possible to reduce bycatch through technical means, but the necessary investment needs to be greater than that outlined in the plan set out here.	Noted. See Point 15 in the table above. Regarding funding, the Applicants wish to emphasise that the measure is intended as potential compensation for the Projects only. It is not intended that the measure would address a UK-wide matter in its' entirety.
Action 1 (Year 1)				
5	**277**	Engagement with academics, nature conservation bodies and the fishing industry to form a by-catch reduction working group with a focus on the East Anglia region, or, to join any existing working group with the same objective…	Given the limited static net bycatch recorded in this region (East Anglia), if there were to be a regional focus on bycatch mitigation, it may be better placed elsewhere. Based on the current best-available data, there are places where there is potential for more substantive conservation gain compared to East Anglia that could benefit from a comprehensive seabird bycatch reduction project. Mitigation trials are also best conducted in fisheries with higher bycatch so that statistical significance of any	See point 16 in the table above.

Point	Paragraph	Text	RSPB comments	Applicants' Response
			intervention can be detected at the lowest possible sample size.	
Action 2 (Year 2)				
6	**286**	The Applicant proposes to undertake one year of monitoring in collaboration with the East Anglia based fishing industry to record seabird by-catch by species and number from long- lining and static net fisheries as a proportion to fishing effort. The detailed scope of work will be as advised by the by-catch reduction working group formed by the Applicant but is anticipated to comprise:	Overall, the framework of this approach is good. But the investment needs to be substantive and broader reaching to answer the questions being asked (about when bycatch is occurring and what can be done about it). We provide some specifics below: • More than one year is preferred to account for interannual differences. Irrespective, the low levels of existing data mean that high levels of observer effort will be required throughout the year (i.e. more than one fisheries observer). • Longlining effort looks to be minimal from East Anglia ports – much of the bycatch recorded is occurring on the continental shelf off the UK's west coast, and is dominated by longliners landing their catch in Spain. • Static net effort is presumably much higher than longlining effort in East Anglia, though Northridge et al. (2020) did not	**Bullet 1** – The Applicants selected a 1 year monitoring period in recognition of the existence already of a fieldwork dataset collected through the Seabird Plan of Action. This additional data would therefore take account of the potential for seasonal variation when compared to the existing dataset. The additional year of data collection proposed by the Applicants is therefore intended to complement existing datasets rather than act as a standalone data gathering exercise, and seeks to confirm the level of bycatch estimated for the East Anglia area.. However, recognising the potential for interannual differences, the Applicants consider that there is potential to extend this period to two years which would be agreed post consent through the by-catch reduction working group. **Bullet 2** – The Applicants agree that the highest intensity of long-lining is located outwith the East Anglia region

Point	Paragraph	Text	RSPB comments	Applicants' Response
			appear to identify much seabird bycatch in static nets here.	but there are long-lining vessels operating in the region and numerous smaller vessels with long-lining capability that use a variety of fishing gears. SPR has engaged with this fishery historically and has included a long-lining fishing trial in the East Anglia ONE windfarm to ensure co-existence between this fishery and the operational windfarm in the expectation that this fishery will continue to operate. Given the presence of the Applicants' parent company SPR in the region for ten years and the location of the Projects, the proposed compensation measure focusses on East Anglian fishers because it is these groups with whom there are existing relationships and engagement mechanisms. The Applicants' key deliverable in the implementation of this compensation measure is Action 5, the setting up of a gear replacement fund that enables fishermen to acquire new gear with a reduced or avoided bycatch effect. Therefore, even though by-catch is potentially not as prevalent in longlining fisheries or in the East Anglia region, the proposed compensation measure would help to identify attractive alternative

Point	Paragraph	Text	RSPB comments	Applicants' Response
				options for fishermen which could be relatively easily transferred to fishing vessels in other regions (e.g. through Defra, NGO or other windfarm developer funded projects) thus contributing to the overall reduction in seabird by-catch. . **Bullet 3** – The Applicants agree with the RSPB summation of the Northridge et al (2020) findings. Action 2 of the Compensation Measure seeks to clarify this assumption with additional effort, notwithstanding the response provided in Point 16.
7	**286** **Bullet 2**	The placement of a fisheries liaison officer on fishing vessels on a confidential basis to record presence and absence of by-catch in catch for different gear types that provides statistical value	According to Babcock and Pikitch (2003) – '*If the observer samples are an unbiased sample of the fishery, our literature review and simulation studies suggest that coverage levels of at least 20 percent for common species, and 50 percent for rare species, would give reasonably good estimates of total bycatch* '. This strongly implies a substantial investment in a number of observers would be required (depending on the size of the local fleet) to achieve enough observer coverage to make	Observer effort required would be established through the by-catch reduction working group once more specific details have been gathered on the exact number of fishing vessels deploying longlines and, or fixed nets, their fishing practices and effort / days at sea etc.

Point	Paragraph	Text	RSPB comments	Applicants' Response
			reasonable estimates of bycatch impact for just the commonly caught species.	
Action 3 (Year 2)				
8	**287**	In parallel with (2) alternative fishing gear designs / new methods of gear deployment would be investigated by the working group. The aim would be to find a range of alternatives to the currently used gear types	As described above, at present, options are limited. This plan (notwithstanding the issues with low observer coverage and whether East Anglia is the best place to engage) is close to what we would do to determine the scale of a problem and work towards identifying solutions. The issue is that the 'identifying solutions' part is a big unknown, both in timescales and effectiveness. Therefore, whether it will save any seabirds cannot reasonably be guaranteed at this stage.	Noted. However, the Applicants position is that some alternative fishing gear options exist that have merit for investigation, for example, the use of fish cages which would prevent issues of entanglement in nets and lines or becoming caught on hooks. Additionally, it should be noted that the 'fishing gear replacement scheme', step-5, would offer the indirect benefit of reducing the potential for gear lost at sea from line snagging and unavoidable at-sea discarding of contemporary fishing gear or through other means i.e. ghost gear, which could present a

Point	Paragraph	Text	RSPB comments	Applicants' Response
				secondary bycatch issue for seabirds and marine mammals.
Action 4 (Year 3)				
9	**288**	The alternatives identified in (3) will be trialled in at-sea tests in the East Anglia region in collaboration with the fishing industry over a one-year duration. The methodology will be determined by the working group and the trials would include suitable controls. This will determine changes in by-catch incidence, success in catching target fish species and other information to support their wider deployment within the UK fishing industry.	The nature of the trials: i.e. number of proposed measures to be trialled, the underlying bycatch rates, the actual measures themselves (e.g. wholescale gear change vs. a small addition of a measure to a gillnet) will have major impacts on the required investment, number of vessels, observers, and capital costs. Our experience is that it is best to try one measure in one place at one time because of the challenges with sample size in bycatch mitigation trials. More than one measure would imply more than one year of trials.	Noted, see Point 15 in the above table.
11.7 Monitoring				
10	**299**	General comment on Actions 2 and 4	Note above points on sampling effort	Noted. See responses at Point 6 and 7 of this table.
11.8 Feasibility				
11	300	"…It is anticipated that Actions 1-4 will already be delivered by the time of the operation of EA1N and EA2 as work nears	The RSPB does not recognise the timescale described by the Applicant for the UK Seabird Bycatch Plan of Action. It is the RSPB's understanding	See point 14 in the table above. The Applicants clarify that the reference to Actions 1-4 being completed relates to the equivalent actions from the UK

Point	Paragraph	Text	RSPB comments	Applicants' Response
		completion on the UK Seabird Plan of Action..."	that the UK Seabird Bycatch Plan of Action is intended to be published by 2022[3] (if not sooner[4]). Therefore, even allowing for some slippage, the UK Plan of Action should be in operation in advance of Actions 1-4 described here.	Seabird Bycatch Plan of Action i.e. these actions would already be completed by the UK Seabird Bycatch Plan of Action and therefore the Applicants would look to supplement or build on the work undertaken as part of that work from 2022 onwards.

[3] See page 31 in: Defra (March 2021) Marine Strategy Part Two: UK updated monitoring programmes
[4] See page 18 in: Defra (March 2021) Marine Strategy Part Two: UK Updated Monitoring Programmes. Summary of Responses.