# Red-throated Diver Implementation and Monitoring Plan (RTDIMP)

| Prepared by: | Checked by: | Approved by: |
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| [redacted] | | |

| Revision Summary | | | | |
|---|---|---|---|---|
| **Rev** | **Date** | **Prepared by** | **Checked by** | **Approved by** |
| 1 | 16/08/2024 | Chris Robinson | Rachel Devine | Peter Robson |
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| Description of Revisions | | | |
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| **Rev** | **Page** | **Section** | **Description** |
| 1 | | | First draft for review by the RTDCSG |
| 2 | 8-9; 14-25; 28-33 | 2; 4; 5; 6; & 8 | Second draft following comments and feedback from RTDCSG |
| 3 | 7; 16-20; 21-23; 28-29; & 30-31 | 2.3; 4.1.2.1; 4.1.4.1; 6.1 & 8 | Third draft following comments and feedback from the RTDCSG |
| 4 | 8-9 & 23 | 2.5 & 4.1.4.3 | Fourth and final draft following final comments and feedback from the RTDCSG |
| 5 | 16-17; 25-26; & 29 | 4.1.1.1; 4.1.4.3; & 5.4 | Fifth draft following comments from the Secretary of State |

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# 1. ABBREVIATIONS AND DEFINITIONS

## 1.1. Abbreviations

| | |
|---|---|
| **AIS** | Automated Identification System |
| **AOE** | Alde-Ore Estuary |
| **BEIS** | Department for Business Energy and Industrial Strategy |
| **BMP** | By-catch Monitoring Programme |
| **COD** | Commercial Operation Date |
| **COLREGS** | Convention on International Regulations for Preventing Collisions at Sea |
| **COWSC** | Collaboration in Offshore wind Strategic Compensation |
| **CTV** | Crew Transfer Vessel |
| **DAS** | Digital Aerial Survey |
| **DCO** | Development Consent Order |
| **DESNZ** | Department for Energy Security and Net Zero |
| **DEFRA** | Department for Environment and Rural Affairs |
| **DML** | Deemed Marine Licence |
| **ESC** | East Suffolk Council |
| **EIA** | Environmental Impact Assessment |
| **FFC** | Flamborough and Filey Coast |
| **GAM** | Genarlised Additive Model |
| **GSD** | Ground Sampling Distance |
| **JNCC** | Joint Nature Conservation Committee |
| **LBBCSG** | Lesser Black-Backed Gull Compensation Steering Group |
| **LBBIMP** | Lesser Black Backed Gull Implementation and Monitoring Plan |
| **MMO** | Marine Management Organisation |
| **MC** | Marine Coordinator |
| **MCC** | Marine Co-ordination Centre |
| **NE** | Natural England |
| **NtM** | Notice to Mariners |
| **NWT** | Norfolk Wildlife Trust |
| **O&M** | Operations and Maintenance |
| **OWEC** | Offshore Wind Evidence and Change Programme |
| **OTE** | Outer Thames Estuary |
| **PoW** | Plan of Works |
| **RSPB** | Royal Society for the Protection of Birds |
| **RTDCSG** | Red-Throated Diver Conservation Steering Group |
| **RTDIMP** | Red-Throated Diver Implementation and Monitoring Plan |
| **SoS** | Secretary of State |
| **SPA** | Special Protection Areas |
| **SWT** | Suffolk Wildlife Trust |
| **VTMS** | Vessel Traffic Management System |
| **EAH** | East Anglia Hub Offshore Windfarms |

| | |
|---|---|
| **EDMS** | Electronic Document Management System |
| **IBR** | Scottish Power / Iberdrola Renewables Offshore |
| **MDR** | Master Document Register |
| **PQMS** | Project Quality Management System |

**NOTE:** The agreement log and the comment log for the RTDIMP are defined as follows:

- **Agreement Log:** Where the projects have sort agreement with the RTDCSG on aspects of the projects DCO obligations.
- **Comment Log:** Addresses the specific comments made by RTDCSG members on the RTDIMP only.

# 2. OVERVIEW AND REQUIREMENTS

## 2.1. Introduction

East Anglia ONE North and TWO offshore windfarm projects are being developed by ScottishPower Renewables (SPR). Applications for development consent were submitted to the Planning Inspectorate in October 2019, with consents for both projects being awarded on 31 March 2022. East Anglia ONE North and TWO are discrete projects with individual Development Consent Orders (DCOs); however, the Projects share a portion of the offshore cable corridor, have the same landfall location, and share an onshore cable route. East Anglia ONE North will comprise of up to 67 wind turbines and East Anglia TWO will be comprised of up to 75 wind turbines, with both East Anglia ONE North and TWO Projects located in the Southern North Sea approximately 36 km and 32 km from the Suffolk coast (respectively).

East Anglia ONE North and East Anglia TWO both received consent on 31 March 2022. Consents were granted on the basis of the Projects delivering compensation for the following features of Special Protection Areas (SPA):

- Kittiwake associated with the Flamborough and Filey Coast (FFC) SPA;
- Lesser black-backed gull as a feature of the Alde-Ore Estuary (AOE) SPA; and
- Red-throated diver as a feature of the Outer Thames Estuary (OTE) SPA.

With respect to red-throated diver, in consenting both projects, the Secretary of State (SoS) concluded that an adverse effect on the integrity of the Outer Thames Estuary SPA (OTE SPA) cannot be excluded due to potential displacement and disturbance effects on red-throated divers alone and in-combination, and therefore both East Anglia ONE North and TWO are required to provide compensation. The development of compensation is to be based on proposals detailed in the Offshore Ornithology Without Prejudice Compensation Measures report[1,2] which is referred to as the "compensation plan" in the DCO conditions described in Section 1.2. In addition, the development of the OTE SPA monitoring requirement is based on the letter provided to the Department for Business Energy and Industrial Strategy (BEIS) (now the Department for Energy Security and Net Zero (DESNZ)) dated 11 March 2022[3,4] which sets out information on survey area, frequency, method and analysis.

This document sets out the Red-Throated Diver Compensation Implementation and Monitoring Plan (RTDIMP) for delivery of the East Anglia ONE North and TWO red-throated diver compensation measures.

## 2.2. Consent Requirements

This RTDIMP, has been prepared pursuant to paragraph 3 of Schedule 18, Part 3 of the East Anglia ONE North Offshore Wind Farm Order 2022 (the 'East Anglia ONE North DCO'[5]) and paragraph 3 of Schedule 18, Part 3 of the East Anglia TWO Offshore Wind Farm Order 2022 (the 'East Anglia TWO DCO'[6]). This document serves to discharge these provisions for both projects. The provisions stipulate:

> *Following consultation with the RTDCSG, the RTDIMP must be submitted to the Secretary of State for approval (in consultation with the MMO and the relevant statutory nature conservation body). The RTDCSG must be consulted further as required during the approval process. The RTDIMP must be based on the strategy for red-throated diver compensation set out in the red-throated diver compensation plan and include—*
> *(a) details of the location where compensation measures will be deployed, why the location is appropriate ecologically and likely to support successful compensation, and details of agreements*

[1] East Anglia ONE North ExA.AS-6.SoSQ2.V5 EA1N Offshore Ornithology Without Prejudice Compensation Measures (planninginspectorate.gov.uk)
[2] East Anglia TWO ExA.AS-6.SoSQ2.V5 EA2 Offshore Ornithology Without Prejudice Compensation Measures (planninginspectorate.gov.uk)
[3] East Anglia ONE North EN010077-009780-EA1N Cover Letter 11 March 2022 final.pdf (planninginspectorate.gov.uk)
[4] East Anglia TWO EN010078-010042-EA2 Cover Letter 11 March 2022 final.pdf (planninginspectorate.gov.uk)
[5] East Anglia ONE North The East Anglia ONE North Offshore Wind Farm Order 2022 (planninginspectorate.gov.uk)
[6] East Anglia TWO The East Anglia TWO Offshore Wind Farm Order 2022 (planninginspectorate.gov.uk)

*demonstrating how the vessel route diversions and/or exclusions will or have been secured to deliver the ecology objectives of the RTDIMP;*
*(b) an implementation timetable for delivery of the vessel route diversion and/or exclusion compensation measures which ensures that the measures are in place prior to the installation of any tower comprised within a wind turbine generator forming part of the authorised development;*
*(c) details in relation to the monitoring of red-throated diver abundance and distribution using aerial digital surveys in the Outer Thames Estuary SPA and a 10km buffer over two winters. Three surveys should take place each winter (between 1st November and 31st March) with one batch to take place before the installation of the turbines forming part of the authorised development and the other batch to take place after;*
*(d) details of the proposed ongoing monitoring of the measures including: survey methods; survey programmes; success criteria; recording of RTDCSG consultations and project reviews; details of the factors used to trigger alternative compensation measures and/or adaptive management measures;*
*(e) details in relation to the convening of a partnership with relevant authorities and user representation to— (i) improve understanding of disturbance and displacement effects on red-throated diver within the Outer Thames Estuary SPA; (ii) identify and implement opportunities to reduce these effects; and (iii) ensure stakeholder engagement and liaison to raise awareness and communicate any proposed changes in usage; and*
*(f) details of the work in respect of ornithological by-catch measures as set out in Appendix 7 of the Offshore Ornithology Without Prejudice Compensation Measures, that could support practical management measures to reduce ornithological by-catch.*

East Anglia ONE North and TWO will ratify this RTDIMP with all members of the Red-Throated Diver Compensation Steering Group (RTDCSG) prior to its submission to the SoS for approval in accordance with Schedule 18, Part 3 of the East Anglia ONE North DCO and East Anglia TWO DCO ('the Compensation Schedules'). Further details of the RTDCSG are provided in Section 1.4.

### 2.3. Approach and Consultation

Under the East Anglia ONE North and East Anglia TWO consents, and in order for East Anglia ONE North Ltd and East Anglia TWO Ltd to fully discharge their conditions, there is a requirement to set up a Red-Throated Diver Compensation Steering Group (RTDCSG) with the aim to consult upon and agree to the contents of the RTDIMP. The RTDCSG was set up in March 2024 by ScottishPower Renewables in consultation with Natural England, with the first meeting taking place in April 2024 where details of the RTDIMP were discussed. Terms of reference as agreed with the East Anglia ONE North and TWO RTDCSG members are detailed in the RTDCSG plan of work (PoW)

To finalise this RTDIMP ScottishPower Renewables has continued to liaise with the RTDCSG via email and subsequent group meetings in April and September 2024, thus allowing members to review and comment on the RTDIMP and supporting documents prior to final submission to the SoS (see Appendix 1 Comment Log). A third meeting was initially planned for November 2024 however, it was agreed with the RTDCSG members that further comments on the second draft version of the RTDIMP would be dealt with via email correspondence and written feedback. This RTDIMP has therefore been developed in consultation with the RTDCSG (see Appendix 1 Comment Log). A record of consultation and engagement with the RTDCSG has been provided in a separate Agreement Log with the intention being that this agreement log be maintained and updated as the project progresses and measures are implemented, monitored and reported on.

The development of the RTDIMP compensation measures are a requirement of the Projects DCO Conditions (as stated in Section 2.2), and they must be based on proposals set out in Appendices 6 and 7 of the Offshore Ornithology Without Prejudice Compensation Measures Reports. This RTDIMP sets out further details on each of the requirements outlined in the Without Prejudice Compensation Measures Reports, the mechanisms for delivery and the timescales involved. Members of the RTDCSG have fed into the development of the RTDIMP to ensure expert input is incorporated and that the proposed mechanisms for delivery are aligned with other similar works taking place around the UK.

Due to the technical nature of the red-throated diver by-catch compensation measure, and as advocated in the Offshore Ornithology Without Prejudice Compensation Measures Reports, a second technical subgroup, the by-catch reduction working group has been established. The working group consists of different technical

experts to that of the main RTDCSG, with the key objectives of group being to advise on the development and delivery of the ornithological by-catch compensation measures, which are primarily:

- The development of the ornithological by-catch monitoring plan;
- Implementation of a pilot gear study to reduce by-catch; and
- Develop appropriate adaptive management measures to ensure ornithology by-catch compensation are effective.

Throughout this process the by-catch reduction working group has liaised with the main RTDCSG, keeping the group informed on progress and development of the ornithological by-catch monitoring plan. All details of this process and the final by-catch monitoring plan are provided in Appendix 2 of this RTDIMP.

### 2.4. RTDCSG Members

The RTDCSG is comprised of representatives of East Anglia ONE North and TWO, Natural England (NE), the Marine Management Organisation (MMO), Joint Nature Conservation Committee (JNCC) and when applicable and invited by the core members of the group, representatives of East Anglia ONE and East Anglia THREE windfarms. In addition, the Royal Society for the Protection of Birds (the RSPB), East Suffolk Council (ESC), the Norfolk Wildlife Trust (NWT) and the Suffolk Wildlife Trust (SWT) were invited as “advisory members” of the group to input into the steering group and provide their experience/expertise where applicable.

Information on the core and advisory members of the ornithological by-catch reduction working group are provided in Appendix 2.

### 2.5. Document Development and Programme Delivery Timescales

As previously stated, the development of this RTDIMP has been a collaborative process with the RTDCSG. A summary of the key steps/group meetings that have taken place to date is provided in Table 1.

| Date | Meeting/Correspondence | Attendees/Recipients | Context |
|---|---|---|---|
| 01/03/2024 | Provision of first draft of the RTDCSG PoW and invitation to Steering Group #1 | NE, MMO and JNCC | First draft of PoW (including Terms of Reference) and invitation provided to all core members of the group for review and comment ahead of Steering Group meeting #1. |
| 04/04/2024 | Steering Group meeting #1 | NE, MMO and JNCC | Overview and update provided to steering group members on red-throated diver compensation measures. Discussion on Plan of Works and Terms of reference. Provision of updates on measures made to date and identification of next steps for the RTDCSG. |
| 16/08/2024 | Provision of first draft of the RTDIMP | NE, MMO, JNCC and RSPB | First draft of the RTDIMP provided to core and advisory members for review and comment ahead of Steering Group meeting #2. |
| 06/09/2024 | Steering Group meeting #2 | NE, MMO, JNCC and RSPB | Overview and update on actions from previous meeting including an update on progress from the ornithological by-catch reduction working group. Detailed discussion on the first draft of the RTDIMP with all members providing initial comments and feedback. |
| 20/11/2024 | Provision of second draft of the RTDIMP | NE, MMO, JNCC and RSPB | Second draft of the RTDIMP provided to core and advisory members addressing comments and feedback provided both during the second |

| Date | Meeting/Correspondence | Attendees/Recipients | Context |
|---|---|---|---|
| | | | steering group meeting and subsequent written responses. |
| 17/12/2024 | RTDCSG written responses | NE, MMO, JNCC and RSPB | RTDCSG members provided written responses to the second draft of the RTDIMP |
| 03/03/2025 | Provision of third draft of the RTDIMP | NE, MMO, JNCC and RSPB | Third draft of the RTDIMP provided to core and advisory members addressing comments and feedback from the written responses on the second draft of the RTDIMP. |
| 25/03/2025 | RTDCSG written responses | NE, MMO, JNCC and RSPB | RTDCSG members provided written responses to the third draft of the RTDIMP. |
| 03/04/2025 | RTDIMP finalised for submission to SoS | SoS | RTDIMP updated to incorporate third draft comments from the RTDCSG and finalised for submission to the SoS. |

*Table 1. Summarises the key meetings and discussion points in the development of the RTDIMP.*

The programme for delivery of the red-throated diver compensation measures is outlined in Table 2. Please note that a separate delivery programme for the ornithological by-catch compensation measure is provided in Appendix 2. The timetable for the RTDCSG group meetings will be discussed with group members in 2025 following submission and agreement of the RTDIMP to the SoS. The schedule will take into consideration the timescales, input required and reporting on each of the requirements outlined within this document.

| Actions | Approximate Proposed Timescales |
|---|---|
| First RTDCSG group meeting held | 4th April 2024 |
| Finalised Plan of Works/Terms of Reference for the RTDCSG circulated to the group | 5th August 2024 |
| Finalised Plan of Works/Terms of Reference submitted to SoS for signoff | 5th August 2024 |
| Provision of first draft of the RTDIMP circulated to working group for review and comment | 16th August 2024 |
| Second RTDCSG group meeting held | 6th September 2024 |
| Final Plan of Works/Terms of Reference resubmitted to SoS for signoff following updates based on feedback from SoS | 3rd October 2024 |
| SoS signoff on Plan of Works/Terms of Reference | 10th October 2024 |
| Provision of second draft of the RTDIMP circulated to working group for review and comment | 20th November 2024 |
| Provision of written responses on second draft of the RTDIMP from all RTDCSG members | 17th December 2024 |
| Provision of third draft of the RTDIMP circulated to working group for review and comment | 3rd March 2025 |
| Provision of written responses on third draft of the RTDIMP from all RTDCSG members | 25th March 2025 |
| Final version of the RTDIMP submitted to SoS for signoff | April 2025 |
| East Anglia ONE North and East Anglia TWO commence vessel movements using defined transit corridors. | Commencement of offshore construction activity. |
| Implementation of vessel re-routing on East Anglia ONE and East Anglia THREE to commence | Prior to turbine installation (whichever project starts this phase first) |
| Pre-construction Digital Aerial Surveys (DAS) of the OTE SPA plus a 10km buffer | Three surveys between 1st November and 31st March (winter prior to construction commencing) |

| | |
|---|---|
| Reporting the outcomes of the compensation measures to the RTDCSG with a meeting held to discuss results, progress and next steps | April 2026 |
| Post-construction DAS of the OTE SPA plus a 10km buffer | Three surveys between 1st November and 31st March (winter following Commercial Operation Date (COD)). |

*Table 2. Outlines the programme for delivery of the key actions to be undertaken for the red-throated diver compensation measures.*

### 2.6. Final Document Structure

The final version of the RTDIMP, for submission to the SOS, includes the following appendices:

- Agreement Log – reflects the topics of discussion between members of the RTDCSG and East Anglia ONE North and TWO. The Agreement Log outlines topic specific matters agreed, not agreed and any actions to resolve areas of disagreement. The Agreement Log has been provided to the RTDCSG members for review prior to formal submission to SoS;
- Ornithological By-catch Reduction Monitoring Plan – provides full details of the development and implementation of the ornithological by-catch reduction compensation measures plan; and
- Consultation Report – summarises the consultation undertaken to date specifically all the details of the RTDCSG meetings including details of the RTDCSG attendees, minutes, dates and other key meeting information etc.

## 3. OUTER THAMES ESTUARY SPA

The OTE SPA is located in the southern North Sea along the east coast of England, extending northward from the Thames Estuary to the marine area off Great Yarmouth on the East Norfolk Coast. The OTE SPA was designated in August 2010. It covers 3,294km$^2$ of marine habitat with part in English territorial waters (0-12 nautical miles) and part in UK offshore waters (12 to 200 nautical miles), with the Annex 1 species red-throated diver as the sole feature (Natural England and JNCC 2010). Extensions were proposed to the SPA in 2015 to include coastal and riverine areas used for foraging by breeding terns (the tern colonies are already designated at other locations). An estimated 6,466 red-throated divers wintered in the SPA from 1989-2006/07 (Natural England and JNCC 2013). However, the population appears to have increased substantially since this time. In February 2018, HiDef conducted two aerial surveys of the OTE SPA, with red-throated diver being the most abundant bird species within the SPA (Irwin et al., 2019). The population of red-throated diver was estimated to be 21,997 individuals within the 'original' OTE SPA and 22,280 individuals within the enlarged OTE SPA (i.e., approximately 3.5 times greater than the notified population of the original SPA designation of 6,466 individuals (2010) (Irwin et al., 2019). The density estimate for red-throated diver was 2.66 birds/km² during the first survey (equating to 10,136 birds) (Figure 1) and 5.78 birds/km² during the second survey (equating to 21,997 birds within the SPA) (Figure 2).

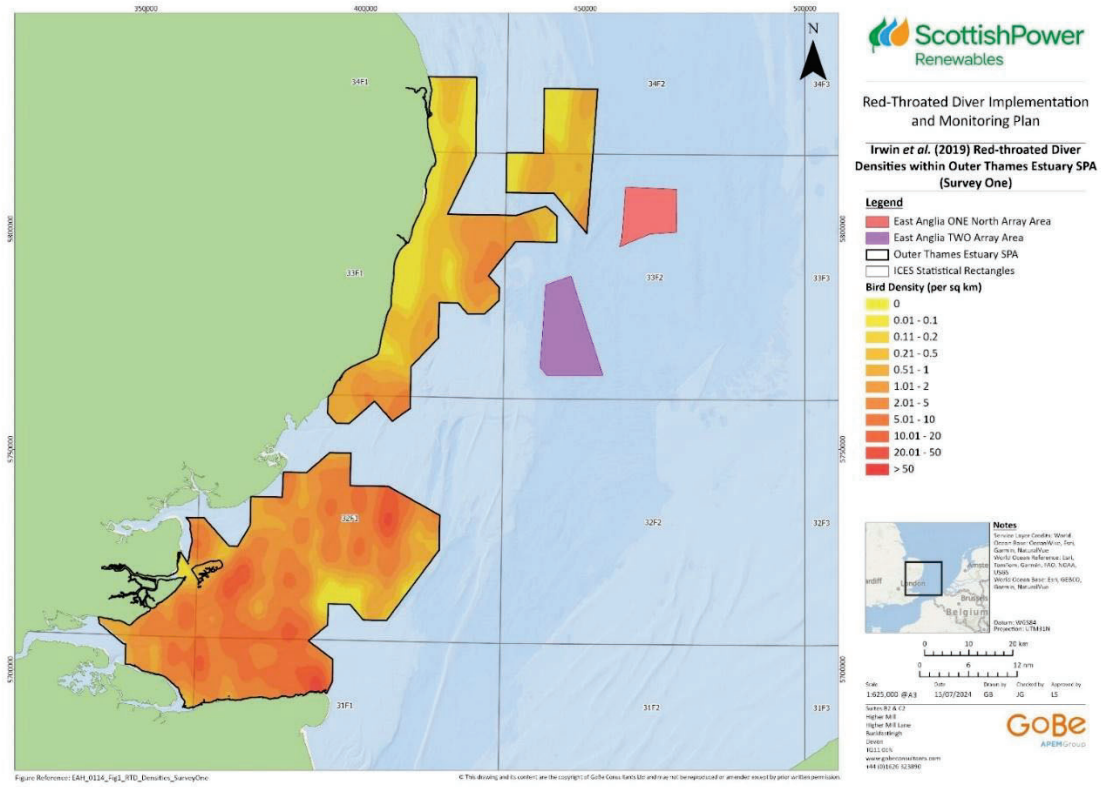


*Figure 1. Red-throated diver densities within Outer Thames Estuary SPA during Survey One (4 February 2018). Data source: Irwin et al. (2019).*

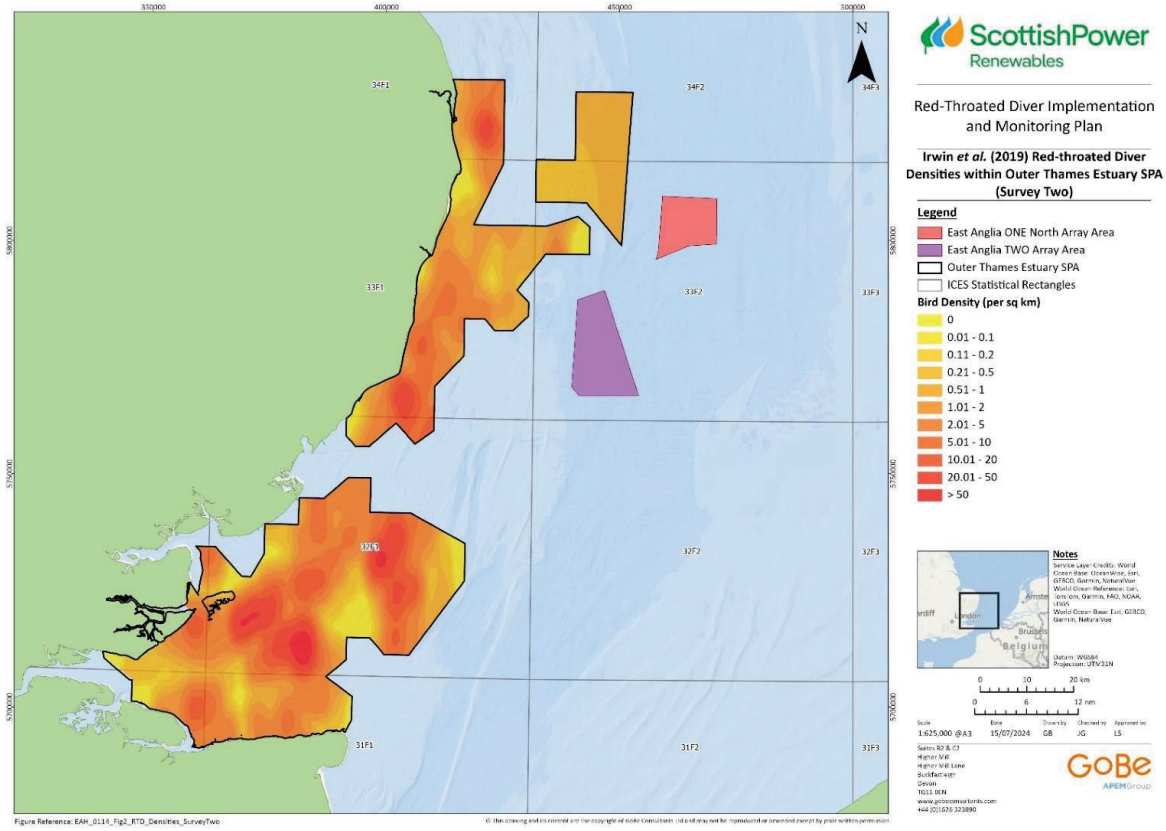


*Figure 2. Red-throated diver densities within OTE SPA during Survey Two (17 February 2018). Data source: Irwin et al. (2019).*

# 4. COMPENSATION MEASURES

## 4.1. Background to Vessel Navigation Management

The Offshore Ornithology Without Prejudice Compensation Measures Reports proposed that vessel navigation management (primary measure) and by-catch reduction (secondary measure) should be implemented as compensation measures for both Projects.

The selection of vessel navigation management was based on the growing body of evidence that has documented the impact that vessel disturbance can have on seabirds, including red-throated diver (Schwemmer et al., 2011; Wade et al., 2016; Burger et at al., 2019; and Fliessbach et al., 2019). APEM (2016), assessed displacement impacts of offshore wind farms and other human activities on red-throated divers and Alcids in the OTE. In reviewing the environmental variables for this modelling framework approach, APEM found that through use of Generalised Additive Models (GAM) that on the days when surveys for red-throated diver were carried out the distribution of red-throated divers was influenced by shipping activity and distance to shipping lanes. Burt et al., (2022) investigated the potential impacts of shipping on red-throated diver and common scoter in the Liverpool Bay SPA. Statistical models using DAS data from two winter surveys and shipping data (vessels fitted with Automated Identification System (AIS)) were produced which, for red-throated diver, examined three shipping metric variables: average length of vessel; the length of the nearest vessel; and distance to the nearest vessel. The analysis concluded that the distance to the nearest vessel, specifically a distance of 2km to the nearest vessel, appeared to be important with average predicted numbers of birds increasing as the distance increased from 0-2km.

Vessel navigation management was selected as the primary compensation measure for red-throated diver based on the potential benefits gained from reducing disturbance within the OTE SPA. The East Anglia ONE North and East Anglia TWO Projects are already committed to navigation management via vessel re-routing during construction, operation and maintenance and decommissioning of the windfarms, from November 1st to

March 31st (inclusive) as red-throated diver mitigation, and as part of the compensation measures this management will be extended to East Anglia ONE and East Anglia THREE windfarms.

East Anglia ONE North and TWO conducted the necessary re-routing studies during the examination process for the crew transfer vessels used for the current East Anglia ONE operations and the vessels for the future windfarm decommissioning activities. Future East Anglia THREE vessel activities from the port of Lowestoft over the core winter months from 1st November to 31st March (inclusive) were also included in this study. Further work has since been undertaken on establishing navigation routes from the port of Lowestoft to the East Anglia ONE and East Anglia THREE windfarm sites (as well as East Anglia ONE North and TWO) avoiding, as far as possible, the OTE SPA with a 2km buffer either side of the route to account for the range over which red-throated diver are known to flush from vessels in transit (Burt et al., 2022). The following sections provide details on the location of the vessel navigation measures, the scale of the compensation measures in respect of potential displacement effects of the windfarms on the abundance and distribution of red-throated divers, the legal agreements that are in place to ensure the vessel navigation management (via vessel re-routing for the Projects) are secured and can be delivered, and the monitoring, reporting and a delivery timetable for this compensation measure.

### 4.1.1. Location

Following consent of both Projects, further studies were undertaken to finalise the vessel navigation routes. Further consideration was given to the current understanding of the baseline environment, existing vessel navigation constraints, historic vessel traffic information, and how the Projects will be constructed and operated in compliance with current legislation and good practice. In addition, the ports of Lowestoft and Great Yarmouth are now planned as the main ports for vessel operations which would interact with the OTE SPA during the construction and operation and maintenance phases of East Anglia ONE North, East Anglia TWO and East Anglia THREE, and are currently the main ports used to support the operation and maintenance of East Anglia ONE.

The final compensation vessel transit routes for vessel navigation management for East Anglia ONE and East Anglia THREE are shown in Figure 3. The routes will come into effect annually between 1st November to 31st March according to the following schedule:

- East Anglia ONE – prior to commencement of wind turbine installation at either East Anglia ONE North or East Anglia TWO (whichever occurs first); and
- East Anglia THREE - prior to commencement of wind turbine installation at either East Anglia ONE North or East Anglia TWO (whichever occurs first).

The final mitigation vessel transit routes for vessel navigation management for East Anglia ONE North and TWO are also shown in Figure 3. The routes will come into effect annually between 1st November to 31st March according to the following schedule:

- East Anglia ONE North – commencement of offshore construction activities; and
- East Anglia TWO – commencement of offshore construction activities.

Once implemented for each project the vessel transit routes will be in effect for each subsequent core winter period (as previously defined) for all Projects and would continue until decommissioning was complete, unless otherwise agreed by the SoS.

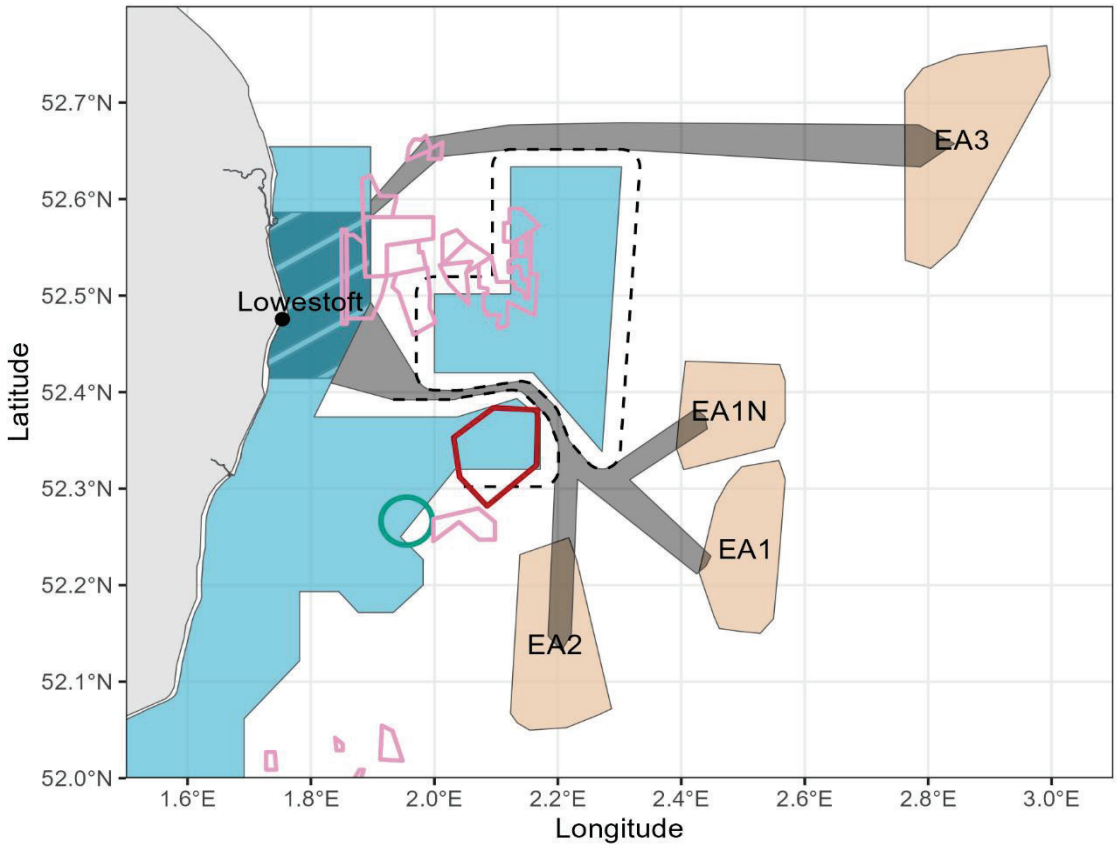


*Figure 3. Vessel Navigation Management Indicative Transit Routes for East Anglia ONE, East Anglia THREE, East Anglia ONE North and East Anglia TWO. Blue shaded areas are the OTESPA, hatched area is the port approach area for vessels, grey shaded areas are indicative vessel routes, red outlined area denotes indicative anchoring activity, pink outlined areas are marine aggregate dredging activity and green outlined area is an oil transhipment area. The dashed black lines indicate the target geofences for vessel activity to maintain a 2km distance from the SPA where possible.*

As shown in Figure 3, the final vessel transit routes between the Projects, Lowestoft and Great Yarmouth ports only covers the open sea area, i.e., outside the nearshore areas in the approaches to Great Yarmouth and Lowestoft. Figure 3 shows the proposed vessel transit corridor, including the corridor that passes between the two separate parts of the OTE SPA, for vessels travelling to East Anglia ONE (as well as East Anglia ONE North and TWO). In the Offshore Ornithology Without Prejudice Compensation Measures Reports the proposed transit routes were provided as a direct point to point line through this corridor, to ensure that vessels were at least 2km away, where possible, from both parts of the OTE SPA. However, on taking further advice from our maritime consultants as well as undertaking further detailed studies, it is evident that it is not possible or safe for vessels to operate in this way, particularly in an area where other vessels will be navigating freely including traveling north and south through the OTE SPA. Therefore, as shown in Figure 3 we have defined a corridor between the two parts of the SPA which creates a channel circa. 1000m in width, in which vessels can operate. The corridor has been designed to minimise as far as possible the impact of vessel disturbance on red-throated divers within the OTE SPA, whilst also allowing vessels to operate in compliance with the Convention on International Regulations for Preventing Collisions at Sea (COLREGs) and deviate within the corridor if required to do so. Compliance of the vessel transit routes within this corridor will be monitored and this is discussed further in Section 4.1.4.3. This approach also has implications for the scale of the compensation ratio, and this is discussed further in Sections 4.1.2 and 4.1.2.1.

Navigation within the nearshore areas (marked as the Port Approach Area on Figure 3), which is within the OTE SPA, is complex and heavily constrained due to the shallow water depths, tidal conditions and port services, and compliance with the COLREGs or port direction (where relevant) is expected by all vessels at all times. Therefore, vessel navigation management transit routes within this area, for all projects, is not possible.

The vessel navigation management transit routes have also taken into consideration other constraints which are noted on Figure 3, these constraints include:

- The OTE SPA boundary;
- Licensed marine aggregate dredging areas;
- Areas of known third party anchoring activity;
- Sandbanks and areas with low depths; and
- Existing routing preferences.

Additionally, all vessels shall passage plan as per the International Convention for the Safety of Life at Sea (SOLAS) (IMO, 1974). Observance of the objective of avoiding the OTE SPA will be expected from all project vessels however, key navigational priority for project vessels remains to comply with the COLREGs (IMO, 1972/77) and ensure the safety of the vessel at all times. It is therefore recognised that decisions on vessel routing remain at the discretion of the vessel's Master.

Reasonable extenuating circumstances for deviation from the vessel navigation management transit routes may include, but not be limited to:

- Compliance with COLREGs as required;
- Prevailing weather, tidal, or sea state conditions;
- Navigational hazards as indicated on charts or notified through Notice to Mariners (NtM) or other such sources;
- Instructions from the Marine Coordination Centre (MCC) or other responsible persons in charge of coordinating and managing vessel traffic; and
- Any other reason the Master of a vessel may deem relevant for the purpose of ensuring the safety of theirs or another vessel.

Experience of existing Crew Transfer Vessels (CTV) operating between Lowestoft and East Anglia ONE array indicates that deviations for the aforementioned reasons are rare events. In the case of route plan deviations due to other vessels, maritime protocols require 500m distance for avoidance between two vessels. It is anticipated that this would be achieved within the vessel navigation management routes which are 900m wide at their narrowest point.

Other deviations from the route plan due to health and safety issues, including weather, are recorded by the MCC. For example, from November 1st 2024 to March 31st 2025 a total of 18 deviations from the planned routes requiring an immediate return to port for East Anglia ONE were recorded. The reasons for these deviations included:

- Sea sickness;
- Sea state above limits; and
- Engine issues.

A proportion of these route plan deviations may have also resulted in deviations from the vessel navigation management routes, had they been in place. Assuming a worst-case scenario where all route plan deviations led to deviations from the vessel navigation management routes, this would represent approximately 3-4% of CTV traffic over the same period to East Anglia ONE. This would not significantly affect the compensation ratio of 6.2:1. Assuming a worse-case scenario whereby vessels were not able to use any of the vessel navigation management routes and passed through the SPA, a 4% pro-rata reduction in the compensation ratio reduces it to 6:1.

A detailed description of the protocol which will be initiated in the event of a deviation, is provided in Section 4.1.4.3

Project vessels originating from other ports, including non-UK ports must also observe the objective to avoid the OTE SPA during the core wintering period, as specified. However, there is no requirement for these vessels to follow the transit routes if their normally planned route does not enter the OTE SPA area.

### 4.1.2. Scale of Compensation

The scale of the compensation should be proportional to the magnitude of the predicted effect, as a result of East Anglia ONE North and East Anglia TWO.

The Offshore Ornithology Without Prejudice Compensation Measures for both East Anglia ONE North and East Anglia TWO[1] projects provided detailed calculations on the scale of compensation that would be provided by implementing vessel navigation management through re-routing of vessels for East Anglia ONE and East Anglia THREE. It should be noted that at the time at which the without prejudice documents were finalised, East Anglia ONE North's project boundary was 2km from the OTE SPA and East Anglia TWO's project boundary was 8.3km from the OTE SPA. The compensation scale details provided in both without prejudice documents illustrated a number of different combinations of alternative project boundaries (distance between OTE SPA and project boundary) alternate modelling approaches used to calculate the effected displacement area (Applicants model and straight-line approach, see REP11-026[7]), and the compensation ratio, which is simply the factor by which the area of compensation exceeds the effective area of displacement. There is no published guidance for a minimum ratio of compensation to effect other than the general rule that it must be greater than 1:1 depending on the level of confidence that the measure would be successful[8].

In granting consent for East Anglia ONE North and East Anglia TWO, the SoS decision letter and statement of reasons (March 31st 2022), states the following:

> *"The Secretary of State notes the advice of Natural England that the updated package of compensation measures provides a reasonable prospect of coherence of the national site network being maintained. The Secretary of State notes that this advice is provided in the specific scenario of a reduction in the impacts of the Proposed Development via a 8km buffer and an avoidance of the impacts of East Anglia TWO Offshore Wind Farm via a 10km buffer and should not be taken as Natural England's advice on other permutations. However, the Secretary of State considers that, given the compensation ratio of 9:1 the shared package of compensatory measures would adequately compensate for the residual adverse effects on the red-throated diver feature of the SPA with a buffer distance of 8 km between the Proposed Development and the Outer Thames Estuary SPA as well as the full adverse effects of East Anglia TWO Offshore Wind Farm at 8.3km. The Secretary of State acknowledges that whilst such a project layout does not constitute an alternative solution (given the loss in generating capacity), it is nevertheless the only project layout where he can have confidence that the package of compensatory measures will be effective."*

Based on the consented project boundaries for East Anglia ONE North and TWO i.e., 8kms and 8.3kms from the OTE SPA boundary respectively and using the precautionary straight line model approach advocated by NE, the without prejudice documents stated that the compensation ratios shown in Table 3 could be achieved for each project alone and in combination.

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[7] ExA.AS-2.D11.V5 EA1N&EA2 Displacement of red-throated divers in the Outer Thames Estuary (planninginspectorate.gov.uk)

[8] From Natural England's Deadline 17 response to Norfolk Boreas - Response to the Applicant's responses to the Examining Authority's Sixth round of Written Questions and Deadline 16 Response. "We note that in the UK compensatory measures have generally been provided with a 'multiplier' that expresses the likelihood of success of the measure in question. 1:1 compensation rates have only been accepted where there is a high degree of confidence in the measure e.g. creation of a readily-created habitat. Elsewhere ratios for habitat creation have been e.g. 2:1 or 3:1." https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-002544-DL17%20-%20Natural%20England%20-%20Deadline%20Submission.pdf

| Project(s) | Effective Area of Displacement (km2) – East Anglia ONE North and East Anglia TWO combined | Compensation Area (km2) | Compensation Ratio |
|---|---|---|---|
| East Anglia ONE | 10.36 | 38.2 | 3.7:1 |
| East Anglia THREE | 10.36 | 59.0 | 5.7:1 |
| East Anglia ONE and East Anglia THREE | 10.36 | 97.20 | **9:1** |

*Table 3: Summary of the scale of compensation (compensation ratio) that vessel navigation management will provide by re-routing vessels for East Anglia ONE and East Anglia THREE, to avoid the OTE SPA*

The method used in the without prejudice documents to calculate these compensation ratio's was to firstly calculate the effective area of displacement by calculating the area of OTE SPA overlap from the wind turbines, then apply a proportional displacement factor which varied with distance. The result of this method concluded that an effective area of 10.36km$^2$ of the OTE SPA would be impacted by displacement from both projects.

The second step was to then calculate the area of the SPA that would be affected if vessels for East Anglia ONE and East Anglia THREE did not avoid transiting the OTE SPA. In calculating the areas potentially affected an assumption was made that vessels travelling to and from East Anglia ONE and East Anglia THREE would generally take the most direct route to the part of the windfarm for which activities are planned. Therefore, the calculated area affected assumed three direct routes from the port of Lowestoft to the centre-north, centre and centre-south of East Anglia ONE and East Anglia THREE. A 2km[9] buffer (i.e. 4km in total) was then applied to each plotted route to establish the area of displacement that each route would have and the average of the three direct route areas was then calculated to ascertain the area of displacement within the OTE SPA that would be avoided through vessel navigation management i.e., the compensation area. This allowed a compensation ratio to be calculated and it was concluded that by implementing vessel navigation management by re-routing vessels from East Anglia ONE and East Anglia THREE, to avoid the OTE SPA during the core winter period of November 1st to March 31st (inclusive), would compensate the potential effect of disturbance to red-throated divers by East Anglia ONE North and East Anglia TWO by a ratio of 9:1.

#### *4.1.2.1.* Recalculation of the Scale of Compensation

Feedback from the RTDCSG during the second group meeting on 6th September 2024 and in subsequent feedback following the meeting, core members of the group requested that an updated evaluation of the compensation achieved from vessel re-routing taking into account two elements:

1. Reduction of vessel movements was recalculated as a proportion of total vessel activity, so that vessel monitoring data can be used to validate the actual magnitude of reduced vessel disturbance achieved;
2. The residual disturbance effects on the OTE SPA from vessels travelling to and from East Anglia ONE not being able to maintain a 2km buffer from the SPA boundary, due to the narrowness of the channel between the two parts of the SPA, are included in the compensation calculations.

To maintain alignment with the without prejudice reports as required by the DCO conditions, the effective area of compensation has been recalculated incorporating these two elements. The percentage difference between vessel traffic without vessel re-routing and with vessel re-routing has been calculated for the portion of the OTE SPA within 2km of vessel traffic associated with East Anglia ONE and East Anglia THREE. AIS data for the period 15th Nov 2022 – 15th April 2023 was used to obtain accurate vessel tracks for East Anglia ONE, which total 531 routes during this period. Since East Anglia THREE was not constructed, vessel data was simulated using Lowestoft as the origin and selecting random values for bearings between the maximum and minimum limits of the East Anglia THREE array as a straight line from Lowestoft. The number of vessel routes for this simulation was the same as the real AIS East Anglia ONE data over the winter period i.e.,531 routes.

[9] The basis for assuming a 4km wide displacement area centred on the vessel transit route (i.e. 2 km either side of the vessel transit route) is based on Natural England advice that red-throated diver are displaced up to 2km from vessels and was the agreed basis of the EIA and HRA vessel disturbance assessments (as presented in APP-060 and APP-043),and the findings of Burt et al., 2022.

This combination of vessel routes was used to describe the baseline "without compensation" scenario and is shown in Figure 4 below.

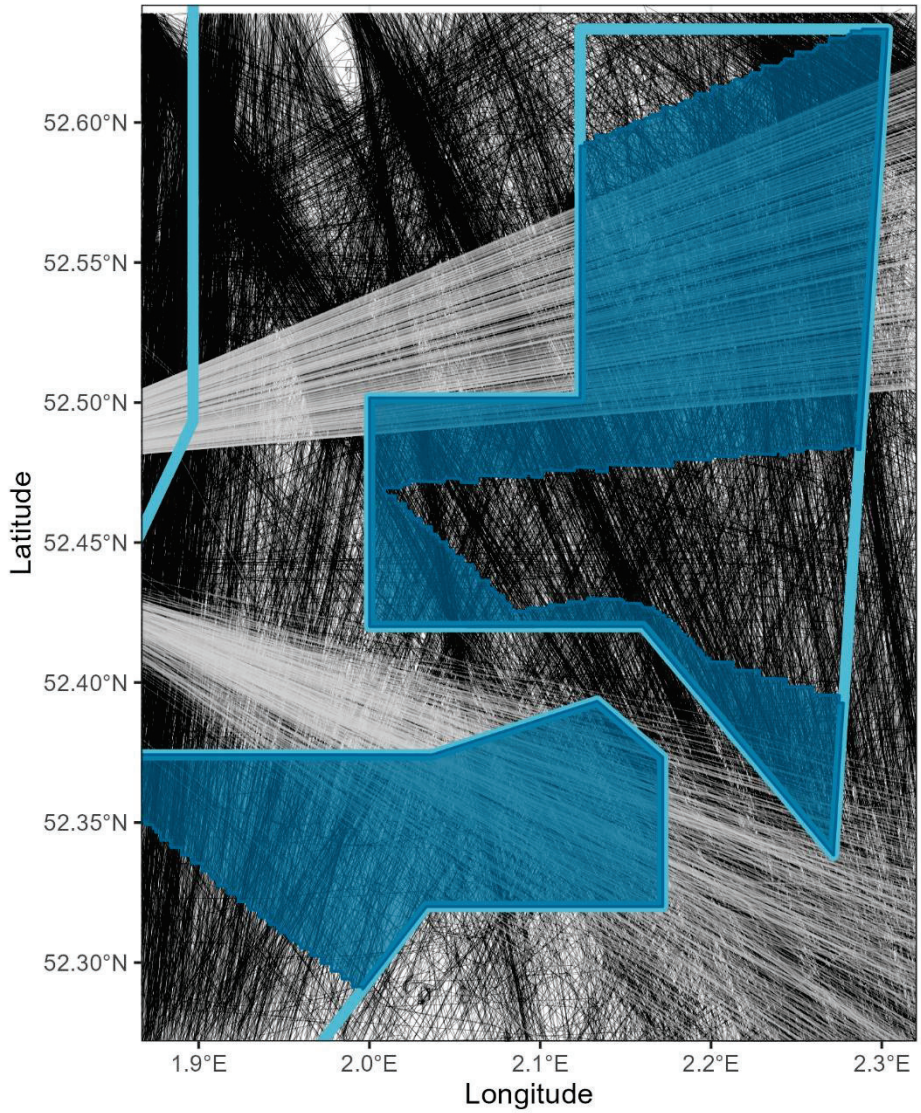


*Figure 4: "Without compensation" scenario. Black lines indicate non-windfarm traffic, upper grey lines are simulated traffic for East Anglia THREE and lower grey lines are actual traffic for East Anglia ONE. The pale blue boundary is part of the OTE SPA, and the darker blue shading is the portion of the SPA within 2km of windfarm traffic i.e. subject to compensation.*

The "with compensation" scenario excludes East Anglia THREE traffic, which avoids the OTE SPA to the north, and routes East Anglia ONE along an alternative corridor between the two sections of the OTE SPA. East Anglia ONE vessel data (531 routes) using this alternative corridor was simulated by finding the centre line of the corridor and then defining limits between 500m northeast and 500m southeast of this centre line to create a representative channel circa. 1000m in width. The limits for vessel proximity to the OTE SPA described for this scenario were drawn as a set of "geofences". The combination of vessel routes and geofences comprising the future "with compensation" scenario is shown in Figure 5.

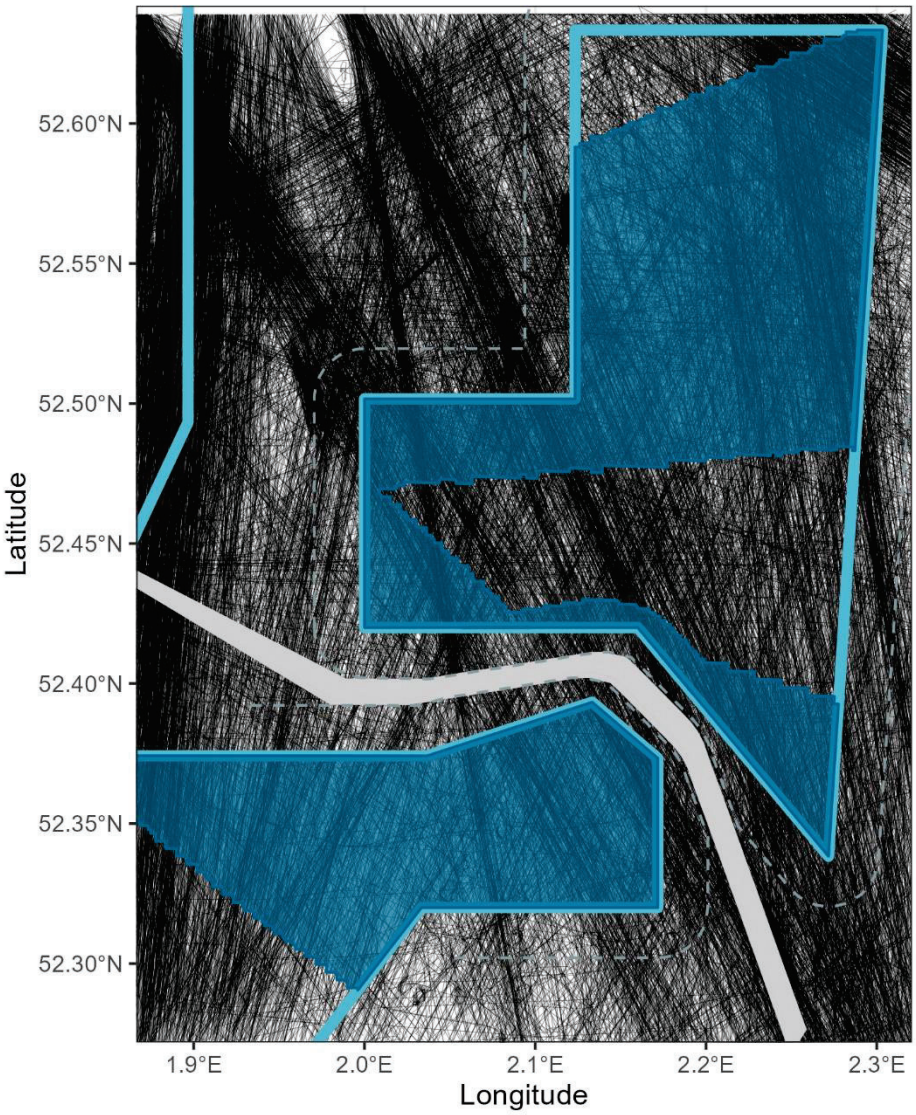


*Figure 5: "With compensation" scenario. Black lines indicate non-windfarm traffic, grey lines (which appear as a single thick shaded line due to overlaps) are simulated traffic for EA1 using the channel between parts of the SPA. The pale blue boundary is part of the OTE SPA, and the darker blue shading is the portion of the SPA within 2km of windfarm traffic i.e. subject to compensation. Grey dashed lines indicate the position of geofences which vessels would aim to avoid.*

The vessel tracks for each scenario were buffered by 2km and summed over a 0.005 degree resolution grid to calculate the number of times a vessel came within 2km of each grid cell over the winter period. Given the narrow width of this corridor used in this simulation for East Anglia ONE vessels some of the OTE SPA would remain within 2km of vessel traffic and this contribution to vessel disturbance was included in the calculations. The difference in total vessel traffic between the "with compensation" and "without compensation" was calculated as a percentage and shown in Figure 6.

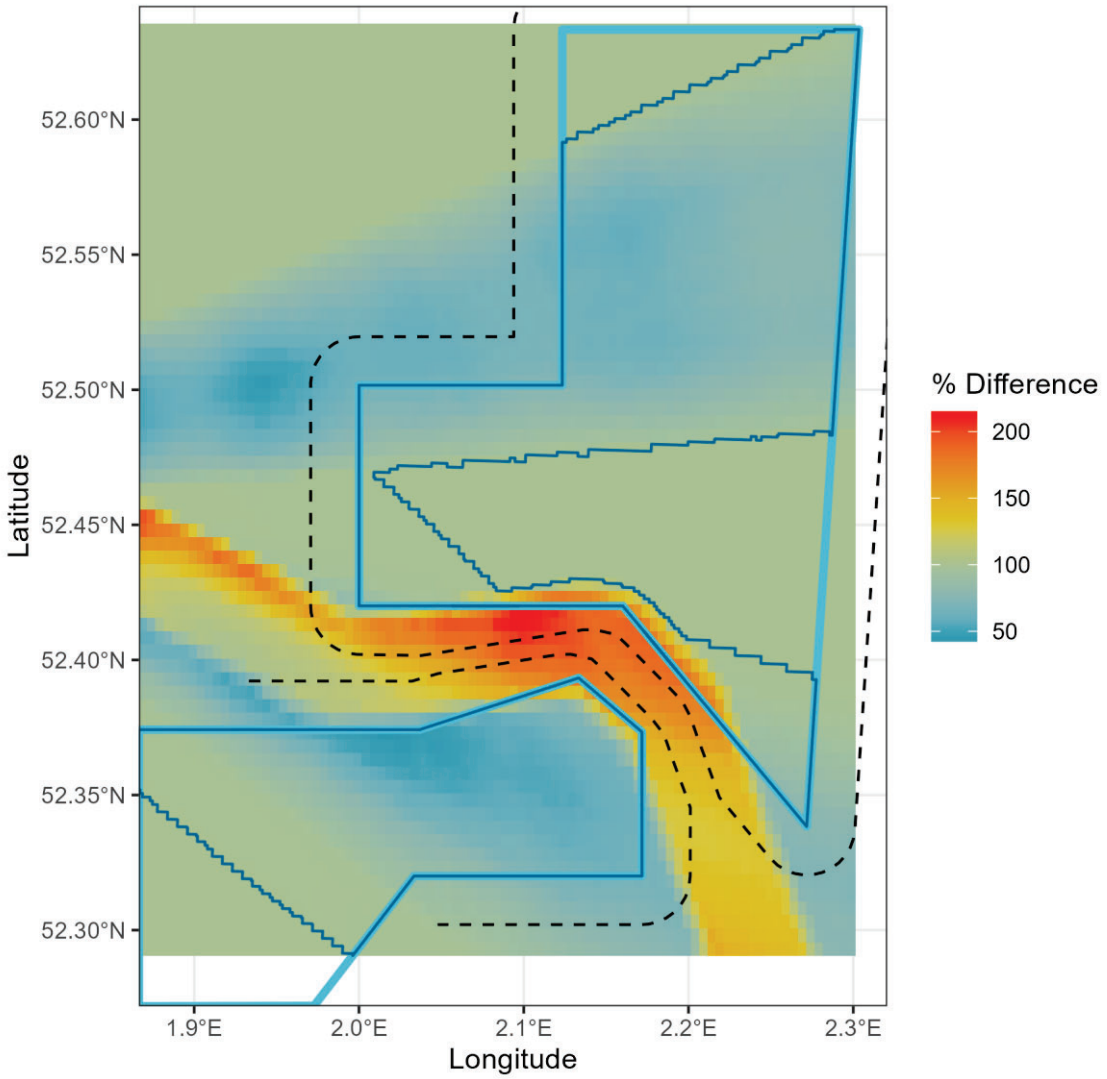


*Figure 6: Percentage difference between "with compensation" and "without compensation" scenario as a change in total vessel traffic. Values above and below 100 indicate an increase or reduction in vessel traffic respectively for the "with compensation" scenario. The pale blue boundary is part of the OTE SPA, and the darker blue boundary is the portion of the SPA within 2km of windfarm traffic i.e. subject to compensation. Grey dashed lines indicate the position of geofences which vessels would aim to avoid.*

The total difference between the scenarios was calculated to quantify the overall compensation ratio within the part of the SPA affected by windfarm vessels (shown on Figures 4, 5 and 6 in dark blue). A breakdown of this calculation is shown in Table 4.

| **Scenario** | **Mean vessel activity Nov – April** |
|---|---|
| (a) "Without compensation" | 235.3 |
| (b) "With compensation" | 196.1 |
| (c) Difference | 39.2 |
| | |
| **Metric** | **Value** |

| | |
|---|---|
| (d) Reduction in vessel activity (c) / (a) | 16.7% |
| (e) OTE SPA affected area | 386.7km$^2$ |
| (f) Effective area of compensation (d) * (e) | 64.5km$^2$ |
| (g) Effective area of windfarm displacement | 10.36km$^2$ |
| (h) Compensation ratio (f) / (g) | **6.2:1** |

*Table 4: Calculation of overall reduction in vessel disturbance within the affected part of the OTESPA*

In summary, by implementing vessel navigation management by re-routing vessels from East Anglia ONE and East Anglia THREE, to avoid the OTE SPA during the core winter period of November 1st to March 31st (inclusive), would compensate the potential effect of disturbance to red-throated divers by East Anglia ONE North and East Anglia TWO by a ratio of 6.2:1.

### 4.1.3. Project Agreements for the Delivery of Compensation

To ensure delivery of the vessel navigation management compensation measure, East Anglia ONE North Ltd. and East Anglia TWO Ltd., have each entered into legal agreements with East Anglia ONE and East Anglia THREE to secure the vessel navigation measures. Details of the measures secured within the agreements and a copy of each legal agreement are provided in Appendix 3.

### 4.1.4. Monitoring

#### *4.1.4.1.* Monitoring feasibility

Schedule 18 Part 3 (d) requires the project to provide details of monitoring the compensation measures including: survey methods; survey programme and success criteria. The Without Prejudice Compensation Measures report referred to in the DCO states the following in paragraph 303 in relation to monitoring of red throated divers and vessel re-routing:

> *"Regular reporting would be undertaken to demonstrate compliance with the vessel routing. In addition, the red throated diver displacement monitoring committed to outside of the compensation measures (see the In-principal Monitoring Plan (REP8-028[10])) would be reported on. If feasible, this monitoring would be designed to incorporate consideration of the vessel management measures and their effects. Results would be discussed with the statutory nature conservation body."*

The purpose of this section is to examine the feasibility of monitoring the effect of vessel re-routing within the context of red-throated divers. It was originally considered that these effects could be integrated into surveys designed to estimate changes in diver abundance around the windfarm project. These surveys were commenced in December 2023 following extensive study design and a power analysis of the ability of the surveys to detect change. Statistical power, the likelihood of a significance test detecting an effect when an effect exists, is governed by the variation between samples and the expected magnitude of effect.

The ongoing DAS to detect windfarm effects were estimated to have a circa. 80% likelihood to detect a 70% reduction in abundance[11]. The likelihood of detecting reductions <70% is primarily limited by the inherent variability in red-throated diver abundance. The ability to detect changes due to vessels is further reduced due to the inherently smaller area where effect could occur (2km from existing vessels as advised by Natural England (Burt et al, 2022, Burger et al, 2019 and Mendel et al, 2019)). This reduces the number of birds

[10] East Anglia One North Offshore Windfarm: Offshore In-Principle Monitoring Plan. Title (planninginspectorate.gov.uk) and East Anglia Two Offshore Windfarm: Offshore In-principle Monitoring Plan. EN010078-004457-8.13 EA2 Offshore In-principle Monitoring Plan (Tracked).pdf (planninginspectorate.gov.uk)
[11] Red-Throated Diver Monitoring Plan: East Anglia ONE North and TWO Ornithology Monitoring. EA2-GEN-CNS-PLN-IBR-000105. (May 2023). SPR report to MMO.

present from which to draw samples and make comparisons which is particularly problematic when densities exhibit large variability. From previous surveys conducted for both the project Environmental Impact Assessment (EIAs) and the ongoing DAS surveys red-throated diver densities were calculated within this part of the OTE SPA (Table 5) and extrapolated to estimate counts. Out of the 24 monthly surveys available, 12 surveys yielded zero counts with a maximum estimate of 726.

| Project | Month-yr | Count in SPA <2km from EAONE vessels | Survey area within SPA <2km from EAONE vessels ($km^2$) | Density within SPA <2km from EAONE vessels ($km^2$) | No. in SPA <2km from EAONE vessels |
|---|---|---|---|---|---|
| EA1N | Jan-17 | 3 | 7.7 | 0.39 | 71 |
| EA1N | Feb-17 | 2 | 7.7 | 0.26 | 47 |
| EA1N | Mar-17 | 15 | 7.7 | 1.96 | 355 |
| EA1N | Apr-17 | 0 | 7.7 | 0.00 | 0 |
| EA1N | Nov-17 | 1 | 4.1 | 0.24 | 44 |
| EA1N | Dec-17 | 4 | 4.1 | 0.97 | 175 |
| EA1N | Jan-18 | 0 | 4.1 | 0.00 | 0 |
| EA1N | Feb-18 | 11 | 4.1 | 2.66 | 482 |
| EA1N | Mar-18 | 0 | 4.1 | 0.00 | 0 |
| EA1N | Apr-18 | 0 | 4.1 | 0.00 | 0 |
| EA2 | Dec-16 | 1 | 3.8 | 0.27 | 48 |
| EA2 | Jan-17 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Feb-17 | 1 | 3.8 | 0.27 | 48 |
| EA2 | Mar-17 | 15 | 3.8 | 4.00 | 726 |
| EA2 | Apr-17 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Nov-17 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Dec-17 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Jan-18 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Feb-18 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Mar-18 | 0 | 3.8 | 0.00 | 0 |
| EA2 | Apr-18 | 0 | 3.8 | 0.00 | 0 |
| EA1N/2 | Dec-23 | 5 | 15.3 | 0.33 | 59 |
| EA1N/2 | Dec-23 | 5 | 15.3 | 0.33 | 59 |
| EA1N/2 | Jan-24 | 3 | 15.3 | 0.20 | 36 |

*Table 5. Number of red throated divers within the SPA counted by previous surveys and estimated number within the OTESPA within 2km of EAONE vessel traffic (shown in dark blue in Figure 7 covering an area of 181.5$km^2$) based on extrapolated density calculations.*

Using the same approach to power analysis as used for the DAS study design with the abundance estimates in Table 5 the probability to correctly detect increases of 50%, 70% and 90% were calculated and summarised in Table 6 to emphasise the difficulty in detecting changes in abundance due to vessel re-routing. The power to detect even a 90% increase in density is <25% even with a sample size of n=30 (which equates to 3 winters of survey, each with n=10 surveys).

| No. samples | 50% increase | 70% increase | 90% increase |
|---|---|---|---|
| 10 | 9.7% | 11.4% | 10.8% |
| 20 | 14.7% | 18.5% | 18.4% |
| 30 | 18.8% | 20.7% | 22.2% |

*Table 6: Results of a power analysis showing the probability of correctly detecting different increases in red throated diver abundance based on the counts in Table 5.*

A further consideration is the mechanism of the potential effects on red-throated divers which contrast between wind turbine and vessel related sources. The presence of wind turbines is constant, so any changes in abundance are presumed also to be constant. Conversely, vessel movements are temporary and the flushing of birds causes localised movement which would temporarily change abundance within an area around the vessel. DAS only provides a single data point for a given day and provides limited information about temporal covariates such as the preceding vessel activity, prey distribution or other potential factors and stochastic processes which would be required to understand diver abundance at fine spatial scales.

The effects of other vessel movements would need to be considered for any monitoring study design. East Anglia ONE North and East Anglia TWO have obtained AIS data tracks of all vessels between Nov 2022 – April 2023 within the same OTE SPA area as the existing East Anglia ONE Operations & Maintenance (O&M) vessels currently transit (Figure 7). The area is highly trafficked by marine vessels, and although there exist some corridors of higher use almost the entire area is utilised by vessels over the winter.

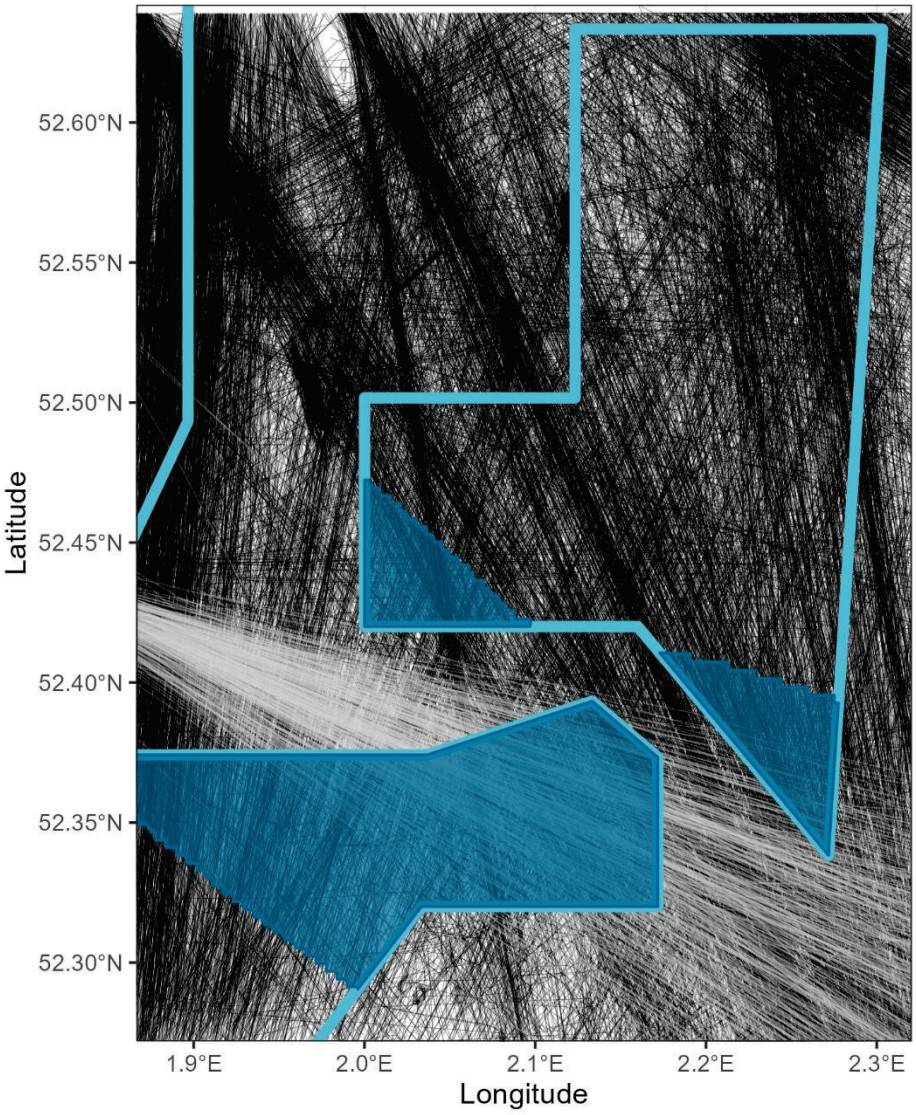


*Figure 7: Map of vessel activity between 15th Nov 2022 and 15th April 2023 within part of the OTE SPA covered by vessel re-routing measures. Black lines indicate non-windfarm traffic and grey lines are actual traffic for EAONE. The pale blue boundary is part of the OTE SPA, and the darker blue shading is the portion of the SPA within 2km of EAONE windfarm traffic.*

Table 7 shows the number and distance travelled by vessels during this winter period within the parts of the OTE SPA within 2km of East Anglia ONE O&M vessel routes.

| Source | Distance (km) | Distance (%) |
|---|---|---|
| EAONE O&M vessels | 5,085 | 22 |
| Other vessels | 18,277 | 78 |

*Table 7: Quantity of vessel activity within the area of OTESPA within 2km of EAONE vessel traffic 15th Nov 2022 – 15th April 2023 (151 days).*

#### *4.1.4.2.* Monitoring vessel reduction in the OTE SPA

Given the combined challenges of effect characteristics, small spatial area of effect, high variability in red-throated diver abundance and interaction with other vessel traffic it is deemed not feasible to monitor the vessel re-routing compensation using DAS to estimate changes in abundance. This conclusion was already raised during the inaugural RTDCSG meeting of the 4th April 2024 where none of the core members raised an objection.

The alternative proposed here is to reconsider how effects are monitored, and rather than attempting to measure an inestimable degree of positive effect we instead measure the reduction in negative effect, by monitoring and validating vessel compliance with the vessel re-routing management measure. In this case the Without Prejudice Compensation Measures reports stated that "Regular reporting would be undertaken to demonstrate compliance with the vessel routing". Given that several studies have established that vessels disturb red-throated divers (e.g. APEM 2016; Burger et al 2016; Burger et al, 2019; and Mendel et al., 2019) up to a distance of 5km in some cases then the reduction of vessel traffic within the SPA must have a positive effect on red-throated diver. Natural England provided advice that a distance of 2km should be used as the displacement distance from vessels.

The recalculated compensation ratio (6.2:1) will be used to evaluate, on an annual basis, the vessel re-routing compensatory measure by comparing the calculated percentage reduction in vessel activity against the actual vessel monitoring data (see Section 4.1.4.3) to validate the actual magnitude of reduced vessel disturbance achieved. This approach will also allow appropriate triggers/thresholds for adaptive management to be set with respect to overall actual reduction achieved, based on vessel monitoring data each year (see Section 8).

#### *4.1.4.3.* Vessel compliance monitoring

East Anglia THREE has contracted Vissim AS to provide a Vessel Traffic Management System (VTMS), for the East Anglia THREE Project. Under this system, vessel movements can be tracked, monitored, and reported on. All vessels associated with the Project will have AIS and will therefore be tracked by the VTMS. In addition, a specific active georeferenced zone (geofence"), which is a 2km buffer from the OTE SPA boundary (except where this is not possible in the channel between the two parts of the OTE SPA) as shown in Figures 3 and 5, has been created. The geofence will be monitored by the Projects Marine Coordination Centre (MCC), to ensure vessels comply with the vessel navigation transit routes/corridors. The geofence will be set to notify the MCC in the event that a Project registered vessel encroaches within the geofenced area

In the event of a vessel deviation from its route plan, the following protocol will be enacted:

- When a vessel encroaches on the active geofence, it will push an audible alarm to the MCC. The OnShift Marine Coordinator (MC) will have to review and accept the alarm;
- Once the alarm is reviewed the OnShift MCC will contact the vessel directly. This is conducted via private project radios direct between parties;
- The MC will notify the vessel of its location, and its encroachment into the "restricted area", and will advise the closest point where the vessel can leave the "restricted area"; and
- The MC will log the event to ensure playback can be generated in the event that the deviation needs to be reviewed at a later date.

It is proposed that the VTMS system will be rolled out for East Anglia ONE, East Anglia ONE North and East Anglia TWO. The data obtained from this system will be used to validate the vessel re-routing compensation measure, as stated in Section 4.1.4.2 above.

Detailed records will be kept of each vessel deviation that occurs. The information that will be recorded, which is included in the AIS data, includes but is not restricted to, date, time, duration, location, speed and reason for deviation.

### 4.2. Timescales

The vessel navigation management compensation measures and monitoring, as set out in Sections 4.1.1 to 4.1.4 above, will be implemented prior to wind turbine installation starting on either East Anglia ONE North or East Anglia TWO, whichever occurs first. Exact dates for this will be refined as construction programmes for both projects are being finalised. Updates will be provided as and when these dates are confirmed, and this document will be updated accordingly.

### 4.3. By-catch Reduction Monitoring

Seabird by-catch from commercial fishing activity is recognised as a global concern (Žydelis et al., 2013; Anderson et al., 2011; Miles et al., 2020) with approximately 100 species impacted worldwide (Dias et al., 2019 As such, by-catch is considered one of the top three threats to global seabird populations (Dais et al., 2019). Within the UK, Northridge et al. (2020) identified static net (set gillnet) fisheries as an important fishery with regards to guillemot, razorbill and gannet by-catch, and longline fisheries as an important fishery with regards to gannet and gull by-catch. Whilst recent UK-based studies (Northridge et al.,2020 and Miles et al.,2020) did not record red-throated diver by-catch, it has been widely recorded in other countries, as was highlighted by Miles et al. (2020), and Natural England (2023) stated entanglement in fishing gear is one of the primary causes of red-throated diver mortality.

A by-catch reduction programme was selected as a secondary compensation measure based on the potential benefits gained from building better knowledge and solutions to reduce by-catch for lesser black-backed gull and red-throated diver. All details of the by-catch reduction compensation programme including actions, delivery programme, location, monitoring and reporting schedules are provided in Appendix 2 of this document.

## 5. OTE SPA MONITORING

### 5.1. Location

In accordance with Part 3 Schedule 18 of the project DCO's, DAS monitoring of red-throated diver abundance and distribution within the OTE SPA plus a 10km buffer (marine area) over two winter periods, with each period comprising three surveys (1st November to 31st March), will be undertaken. Figure 8 shows the survey area for the monitoring which includes the OTE SPA plus a marine 10km buffer area.

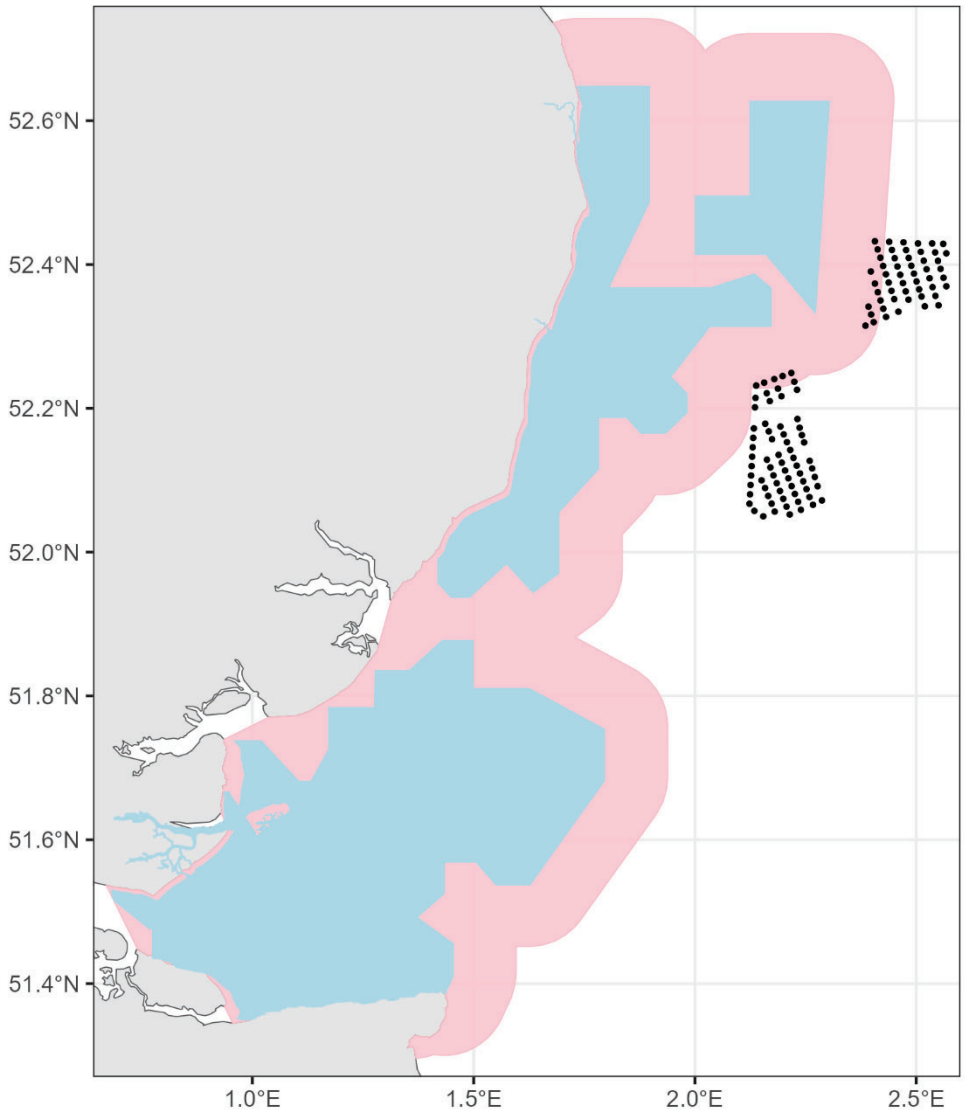


*Figure 8: DAS survey area of the OTE SPA plus a 10km buffer. The blue shaded area is the OTE SPA; the pink shaded area is the 10km marine buffer area; the two clusters of black dots are the turbines for East Anglia ONE North (upper) and East Anglia TWO (lower). Inner estuarine areas of the OTE SPA have been excluded in the 10km buffer area due to the challenges this would present for transect-based DAS surveys.*

It should be noted that a programme of DAS pre and post construction surveys, as part of the Projects Deemed Marine License (DMLs), are being undertaken to determine whether there is a change in abundance and distribution within the windfarm site and appropriate buffer zones following construction of the windfarm. The aims and objectives of the DML monitoring study are to:

- Identify whether there is at least a 70% reduction in red-throated diver abundance and/or distribution from East Anglia ONE North and East Anglia TWO; and
- If there is a reduction, assess the distance over which those changes are apparent.

To test these objectives, the following data are being collected via DAS:

- Red-throated diver abundance pre- and post-construction within the windfarm array and buffer areas; and
- Red-throated diver distribution pre- and post-construction within the windfarm array and buffer areas.

Following data collection, a comparison will be completed for both the abundance (density) and distribution of red-throated diver between pre- and post-construction. Any detectable effect i.e. reduction in abundance or change in distribution will be calculated including the distances to which they are reduced to.

Full details of the survey programme and objectives of the DML monitoring study are provided in the Red-throated Diver Monitoring Plan (SPR, 2023).

### 5.2. Methods

The methodology for DAS for offshore bird surveys typically involves the use of high-resolution cameras and remote sensing techniques to capture detailed images of birds in their natural habitat. These surveys are conducted using aircraft flying transect lines at altitudes that minimize disturbance to wildlife, while still allowing for the identification and counting of individual birds, typically 400-500m asl. Advanced image processing software is then used to analyse the photographs or video footage, with the help of machine learning algorithms to automate the detection and classification of species. This method provides a non-intrusive means to monitor bird populations and their behaviour over large areas. The data collected can help in understanding migration patterns, population sizes, and the potential effects of climate change or human activities on bird populations. The DAS will be undertaken across the OTE SPA plus a marine 10km buffer, as shown in Figure 8.

Survey transects will be parallel and will likely be aligned east to west. The alignment has been chosen due to the importance that transects evenly sample along environmental gradients. As per the DCO requirements two winter periods, one of pre-construction surveys and one of post-construction surveys, will be completed. In each winter period (1st November to 31st March inclusive), three surveys will be completed, resulting in six surveys spread over two wintering periods. During each DAS the camera technician will collect digital imagery and contextual observations to a standard which (following processing and analysis) will enable the following details to be recorded:

- Identification to species level and species grouping;
- Identification of age and sex where possible;
- Location / coordinates (to two (2) metre accuracy);
- Behaviour (e.g. flying, sitting, feeding, preening etc);
- Flight direction / orientation (on 16-point compass);
- Georeferenced location (date and time) and footprint of image; and
- Contextual information of any relevant observations that may affect the survey results, e.g., shipping, types of vessels and direction.

The camera system will be operated by a trained aerial survey technician to ensure successful data collection. Adjustments will be made to the angle of the camera system to avoid glare from the sea surface. The technician will also keep a record of the order in which the transects are flown, the time which the first node of each transect is captured, transect orientation and ground speed.

Survey flights will take place at a height in accordance with minimum safe altitude regulations which will also avoid disturbance to birds (and marine megafauna) whilst optimising ground resolution (minimum 2cm Ground Sampling Distance (GSD)). DAS surveys will achieve a 15% coverage and will only take place during suitable weather conditions. Where possible and weather conditions allow, one survey will be completed in December, January and February for both pre- and post-construction surveys with approximately a four-week gap between each survey. As far as is practically possible, the pre- and post-construction surveys will follow a comparative methodology to ensure consistency and accuracy of analysis.

### 5.3. Timescales

The first winter survey will occur prior to commencement of offshore construction of East Anglia ONE North offshore windfarm or East Anglia TWO Offshore windfarm (whichever is the first to commence construction) and the second survey during the first winter following the COD of East Anglia ONE North offshore windfarm or East Anglia TWO offshore windfarm (whichever is the later to enter operation).

### 5.4. Analysis and Reporting

The objective of these DAS OTE SPA surveys is to obtain data that can assist in better understanding the abundance and distribution of the red-throated divers in the OTE SPA and surrounding area, and to consider how anthropogenic sources of activity such as offshore windfarms and vessels, influence this. There have been several previous studies which have looked at the abundance and distribution of red-throated diver in the OTE SPA (APEM 2013, and Irwin et al 2019), some studies have assessed the potential displacement impact of anthropogenic activities and the presence of offshore windfarms on red-throated diver (APEM 2013 and APEM, 2016).

It is proposed that the data obtained from OTE SPA DAS surveys will be used to create abundance and distribution estimates using both a design based and model-based approach, similar to that which was undertaken in the APEM (2013) study. Such a study would also incorporate other appropriate sources of data including but not limited to, the data being collected for the DML (array and 15km buffer area, APEM 2013 data and HiDef Ltd 2018 data, to increase sample size. The highest resolution datasets available would be used in the model-based analyses. Example candidate environmental covariates which would be considered for the models would include, but not be limited to:

- Bathymetry;
- X and Y coordinates;
- Distance to coastline;
- Seabed slope;
- Seabed aspect;
- Chlorophyll a;
- Tidal base;
- Wave base;
- Average se surface temperature;
- Distance from human activities such as dredging;
- Distance from operational windfarms;
- Distance from windfarms under construction; and
- Distance from shipping activity.

Both approaches would explore which covariates have the strongest correlation as predictors of abundance and distribution i.e., anthropogenic variables such as shipping and distance to windfarm, to better understand how they influence and impact (displacement) the red-throated diver distribution within the OTE SPA plus 10km buffer, similar to studies undertaken by Burger et al., (2019).

All data will be uploaded on the marine data exchange. The data and models would be shared with NE in order for it to be used in other studies such as sensitivity tool mapping, identification of sanctuary zones and wider analyse to understand what impacts offshore windfarms have had on the OTE and surrounding area over the past 20 years. The data could be used and augment or integrate with these other studies and modelling approaches, to increase the knowledge and understanding of anthropogenic impacts i.e., disturbance, on the abundance and distribution of red-throated divers in the OTE SPA. Furthermore, the results of the survey monitoring including data and modelling analysis will be included in the RTDIMP annual reports to the RTDCSG, in the years when surveys works are undertaken.

## 6. PARTNERSHIPS

Schedule 18 Part 3, paragraph 3(e) of the DCO consent for both projects states the following:

*e) details in relation to the convening of a partnership with relevant authorities and user representation to:*

- *(i) improve understanding of disturbance and displacement effects on red-throated diver within the Outer Thames Estuary SPA;*
- *(ii) identify and implement opportunities to reduce these effects; and*
- *(iii) ensure stakeholder engagement and liaison to raise awareness and communicate any proposed changes in usage*

At the time of the DCO consent, East Anglia ONE North and TWO committed to creating and hosting a partnership of the relevant authorities and other representatives, which would identify and implement

opportunities to reduce the disturbance effects on red-throated diver at a strategic level[3]. The DCO and project commitments preceded the formation of the Collaboration on Offshore Wind Strategic Compensation (COWSC) group, which sits under the Offshore Wind Industry Council (OWIC) programme of research projects.

### 6.1. The Collaboration on Offshore Wind Strategic Compensation (COWSC)

The purpose of the COWSC group is to improve the shared understanding of environmental compensation options relating to the offshore wind industries interface with nature, and better coordinate the consenting process for offshore wind projects. As the pipeline of offshore wind development grows, there is an increasing need for developers, Government, and stakeholders to be able to take a more coordinated and strategic approach to identifying and delivering any required environmental compensation measures. There are currently uncertainties around how to assess the effectiveness of these environmental compensation measures, which has led to delays in consenting decisions and therefore COWSC is aiming to establish a comprehensive bank of data and evidence of efficacy in a library of suitable measures that can be used and delivered in a more strategic manner by the industry that delivers solutions as well as ecological coherence of the designated sites network.

COWSC is made up of representatives of key stakeholders including offshore wind developers, statutory nature conservation bodies, The Crown Estate, UK Government, Devolved Governments and environmental non-governmental organisations. At present COWSC is focused on delivering a shared body of evidence and research (including practical pilot studies) in four target areas which are:

- Artificial nests for seabirds;
- Habitat restoration and creation;
- Predation reduction; and
- Removal of defunct infrastructure.

Within COWSC there are several expert groups which are researching specific measures and/or species particularly where data gaps are prevalent. One species which has a dedicated expert group is red-throated diver.. An initial red-throated diver group was setup by DEFRA, Natural England, the MMO and DESNZ in 2023. It was outwith the COWSC group and offshore wind developers including SPR were invited to join. SPR attended the first two group meetings in 2023 and a brief summary of the discussions which took place during those meetings is as follows:

- Preliminary discussions with stakeholders regarding expert topic group for red-throated diver as part of the COWSC; and
- Second expert topic group meeting discussion with red-throated diver group to discuss potential feasibility study to assess all anthropogenic impacts on red-throated diver in the OTE SPA and consideration of designation of quiet zones and how developers could contribute to this.

This initial group was paused whilst the MMO explored if there was a mechanism to include existing offshore wind farms. However, in parallel to this after the first year of the COWSC programme an exercise was carried out to identify priority strategic compensation measures including red-throated diver, which then subsequently became part of the COWSC workstream with industry represented by OWIC. The principal purpose of the expert group is to provide a recommendations on the potential ecological efficacy, delivery feasibility, and strategic value of “Sanctuary Zones” for red-throated diver within the OTE SPA. Alongside “Sanctuary Zones”. The group is also considering whether there are wider suitable strategic compensation options for red-throated diver in need of further review.

Following the second RTDCSG meeting on 6th September 2024, JNCC (email dated 18th September 2024) provided the following COWSC red-throated diver expert group update:

> *“The COWSC red-throated diver subgroup has been collating evidence of red-throated diver disturbance and displacement and working on a delivery plan. Department for Environment and Rural Affairs (Defra) have asked for any research needs for the group. Several ideas have been submitted around the need for better data on red-throated diver distribution outside of the OTE SPA, on the basis that “Sanctuary Zones” may need to be consider in areas outside of existing SPA. This could include DAS, but there is a caveat that DAS is not quick to carry out and produce outputs in the current timescales. NE have completed a project risk-mapping the OTE SPA, taking red-throated diver density distribution, existing levels of activity, and information about habitat preferences to generate maps of risk and opportunity. This could be used to identify suitable habitat and where there*

*are areas of activity that could be suppressed. The group are also progressing the definition of a "Sanctuary Zone" to aid discussion on their effectiveness and eventually their feasibility."*

### 6.2. Developer Group

There is currently significant overlap between the aims of the COWSC expert group and the DCO Condition for East Anglia ONE North and TWO stated above. Therefore, in order to convene a partnership which is complimentary to the scope of COWSC, the Projects propose to convene discussions with other developers / users that have the potential to impact red-throated diver within the OTE SPA, through forming a developer group to share lessons learned, experience and monitoring/modelling results of the measures implemented by East Anglia ONE North and TWO.

The Projects will also encourage other developers / users to share their results and experience of any measures which they have implemented, in respect of red-throated divers. The objective of this approach will be to raise awareness, improve understanding of disturbance and displacement effects and share good practice of operating offshore windfarm developments where red-throated diver are present and encourage all users to adopt good practice measures where results have shown such measures to be beneficial/positive. As was discussed and agreed during the second RTDCSG meeting on 6th September with all core members, the Projects have no regulatory powers and are therefore restricted in their ability to compel other users to implement changes which would only be adopted on a voluntary basis.

In forming this developer group and sharing results of monitoring programmes and measures that have been implemented, East Anglia ONE North and TWO would raise awareness of improved working practices/changes in usage that have a positive effect on the red-throated diver population and OTE SPA as a whole.

The Projects believe that this developer group would compliment the work being undertaken by the COWSC red-throated diver expert group and would seek to implement an exchange of knowledge and information between the two groups either through representation on the group or sharing of documents such as minutes or results of monitoring programmes.

It is proposed that the developer group would meet every six months and would be chaired by SPR with representatives from projects <10km from the OTE SPA invited to join this group, as well as other users including the following:

- North Falls;
- Scroby Sands:
- London Array;
- Kentish Flats;
- Gunfleet Sands;
- Thanet;
- Greater Gabbard;
- Applicable port authorities;
- Applicable local planning authorities; and
- The MMO.

The first meeting of the group will take place after the first pre-construction OTE SPA DAS surveys have been completed and analysed, and every six months thereafter until the final post-construction OTE SPA DAS surveys have been completed and analysed. The requirement for continuation of the group and further meetings will be reviewed at that stage.

## 7. REPORTING

Paragraphs 6 and 7 of Part 3 of Schedule 18 of the DCO establish the reporting requirements that will be adhered to by East Anglia ONE North and East Anglia TWO. These are as follows:

*"6. The undertaker shall notify the Secretary of State of completion of implementation of the measures set out in the RTDIMP. Once implemented, the measures should remain in place throughout the operational lifetime of the authorised development.*
*7. Results from the monitoring scheme and aerial digital surveys must be submitted at least annually to the Secretary of State and the relevant statutory nature conservation body. This must*

*include details of any finding that the measures have been ineffective in securing the maintenance of the SPA's conservation objectives and, in such case, proposals to address this. Any proposals to address effectiveness must thereafter be implemented by the undertaker as approved in writing by the Secretary of State in consultation with the relevant statutory nature conservation body."*

Annual reports documenting the implementation and monitoring of the RTDIMP requirements will be produced and submitted to the SoS and RTDCSG. Each annual report will detail the monitoring, survey work (when applicable) and partnership work undertaken in the previous year and the results/findings. Discussions and agreements made within the RTDCSG will also be provided, particularly details on implementation and monitoring of actions and any subsequent actions which have been agreed. The annual reports will also include implementation, progress and actions completed in relation to the ornithological by-catch programme of work.

## 8. ADAPTIVE MANAGEMENT

The RTDIMP compensation measures will be evaluated for their efficacy on an annual basis. It is proposed that the process shown in Figure 9 will be followed:

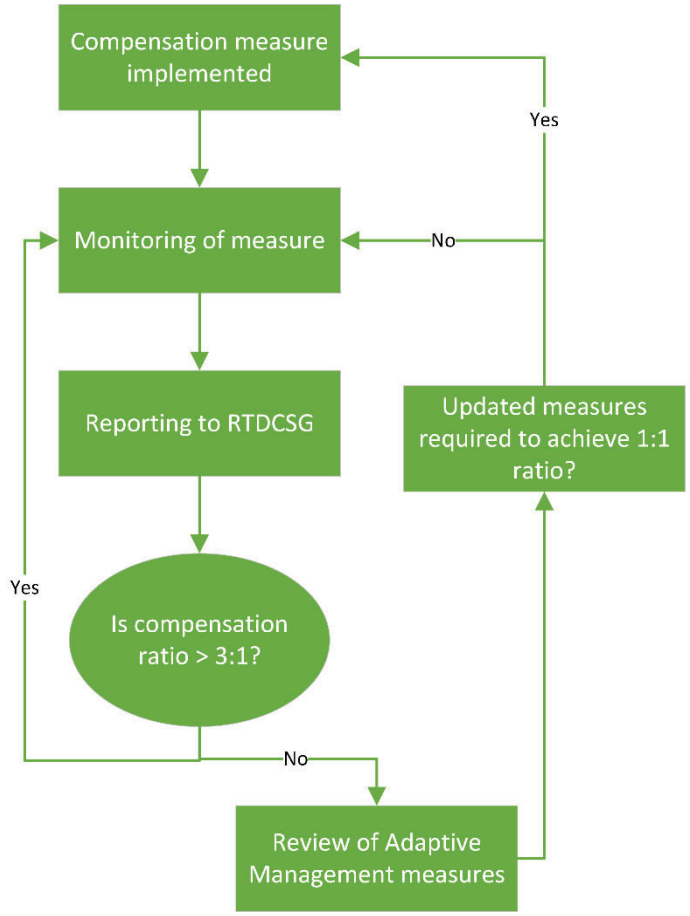


*Figure 9: Flowchart showing process to be followed for review of compensation measure efficacy and requirement for adaptive management, if applicable.*

Whilst at this time it is not possible to determine which adaptive management measures would be considered, because this will depend on specific circumstances, it is possible to define the triggers that would lead to adaptive management and provide examples of what adaptive management measures could be considered. As stated in Section 4.1.4 the Projects propose to validate data against the predicted compensation ratio based on the calculated estimated magnitude of reduced vessel disturbance verses the actual data which will be obtained via vessel compliance monitoring (Section 4.1.4.3). The Projects propose that if the compensation ratio drops to below a 3:1 ratio this would trigger a review of the of the compensation measures. If the review finds that a change is required, the revised measures will be implemented as shown in Figure 9. For example, if the data analysis shows that certain vessels have violated the geofences then the projects could implement a targeted communication campaign with the relevant vessel crews (toolbox talks etc.) further detailing the importance of the corridors and why they need to be adhered to, where safe to do so.

However, if the review concludes that no changes to the measures are required to achieve a 1:1 compensation ratio then the Projects will continue to monitor and review.

Example options of adaptive management measures that could be considered include:

- Further optimisation of vessel routes to allow further flexibility for vessels within the vessel management corridors whist limiting additional disturbance to the OTE SPA and compensation ratio. For example, if the data logs show that deviations due to regular known vessel movement shipping lanes has occurred, then the timing of crew transfer vessels could, where practicably possible, be scheduled to avoid these regular movements;
- Reduction of vessel speeds, particularly in the vessel management route between the two parts of the OTE SPA, as this has been shown to reduce disturbance from vessels on red-throated divers (Burger et al, 2019);
- In circumstances where more than one vessel is due to travel to the same project, an evaluation could be made to see if it is plausible for the vessels to travel at the same/similar time to reduce disturbance effects; and
- Other measures that are identified through the developer group or identified by consultation with other stakeholders/regulators, which may be deemed appropriate to implement.

All adaptive management proposals and actions will be discussed and agreed collaboratively with the RTDCSG prior to being submitted to and approved by the SoS.

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# 10. APPENDIX 1 – COMMENT LOG

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
|---|---|---|---|---|
| RTDIMP Draft 1: RTDCSG Comments | | | | |
| NE 1 | 1.1 | The draft RTDIMP states that it will be in accordance with the Offshore Ornithology Without Prejudice Compensation Measures, however this document does not provide details of the proposed SPA-wide monitoring. This was clarified in a letter from SPR to BEIS (now DESNZ) dated 11 March 2022, which sets out information on the area of surveys, survey frequency, survey method and analysis. The statement on the analysis is that 'The survey results will be used to create a new OTE SPA RTD displacement effect model which also considers environmental and anthropogenic covariates, including offshore windfarms.'. Natural England advises that this objective should be included within the RTDIMP. | Reference to the letter dated 11th March 2022 to BEIS (now DEZNZ), has been included in Section 2.1 of the second revision of the RTDIMP. The objectives of the OTE SPA DAS surveys and applicable modelling are now included in a revised Section 5 of the OTE SPA DAS monitoring and Section 5.4 Analysis and Reporting. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| NE 2 | 1.2 | Below, we highlight in bold the following areas of the compensation schedule that need further detail in the RTDIMP:<br><br>*d) details of the proposed ongoing monitoring of the measures including: survey methods; survey programmes; success criteria; recording of RTDCSG consultations and project reviews; details of the factors used to trigger alternative compensation measures and/or adaptive management measures;*<br><br>(*e) details in relation to the convening of a partnership with relevant authorities and user representation to— (i) improve understanding of disturbance and displacement effects on red-throated diver within the Outer Thames Estuary SPA; (ii) identify and implement opportunities to reduce these effects; and (iii) ensure stakeholder engagement and* | Further details regarding triggers to alternative compensation measures and adaptive management measures; and convening of partnerships, has been added to the following sections of the RTDIMP:<br><br>• Section 6 has been updated with further information on the convening of partnerships. Section 6. 1 provides detailed information on the work being carried out by COWSC and how this dovetails with the requirements of East Anglia ONE North and TWO's DCO. Section 6.2 provides details on a proposed developer group that the Projects will convene to fulfil their DCO requirements as well as complementing the work undertaken by COWSC; and<br>• Section 8 provides updated details on adaptive management including triggers, which relate directly to the compensation ratio for vessel management/monitoring and includes examples of the types of adaptive management measures which would be considered if required. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | *liaison to raise awareness and communicate any proposed changes in usage;*<br><br>We are concerned that there is no clear statement regarding either triggers/adaptive management nor the convening of a partnership, and request these are incorporated in an updated RTDIMP. | | |
| NE 3 | Figure 3 | As noted in our meeting of 06 September 2024, the without prejudice material showed vessel routes as lines, whereas in the draft RTDIMP broad corridors have been used. Unless clarified, the risk here is that vessel movements could occur within 2km of the SPA and therefore cause disturbance to RTD within the SPA, undermining the purpose of the re-routing. We advise that the vessel corridor to the north should be set a minimum distance of 2km from the SPA boundary. Whilst we recognise that it is not possible to stay 2km from the SPA when passing | Figure 3 in Section 4.1.1. has been updated to show the proposed vessel re-routing that will be used for the compensation measure. The new route to the north of the OTE SPA is 2km from the SPA boundary. The route which passes between the two parts of the SPA has been optimised to reduce the residual impacts of vessel disturbance on the SPA as far as is practically possible by maintaining the maximum distance possible from the boundary, whilst also ensuring safety and adherence to COLREGs. The residual effects of the disturbance which will still occur from vessels, where it is no possible to maintain a distance of 2km from the SPA boundaries, has also been accounted for in the updated Scale of Compensation (Section 4.1.2) and subsequent compensation ratio.<br><br>The basis for the compensation regarding vessel re-routing in the Without Prejudice documents for both projects, took an area-based approach and we want to ensure that we are consistent with this. We have updated the area-based approach methodology in Section 4.1.2 taking account of the additional vessel disturbance | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
|---|---|---|---|---|
| | | between the two parts of the SPA, a route that maintains the maximum distance possible between the two parts should be identified up to the point at which it is possible to avoid both by 2km. We recommend that this specific area of the SPA potentially impacted along the route plus 2 km buffer is quantified spatially and presented both in km2 and as a proportion (%) of the total area of the OTE SPA.<br><br>Additionally, we suggest that an alternative temporal appraisal of impact is conducted by calculating the number of days (or more specifically periods of daylight) between November 1st and March 31st inclusive that the area identified above will be impacted, bearing in mind red-throated divers may be displaced for up to 7 hours (almost the entire daylight period at that time of year) by fast-moving vessels associated with OWFs (Burger et al, 2019). | in the area effected and subsequent compensation ratio which has been recalculated in Section 4.1.2.1 including % reduction in vessel activity based on the real data that we obtained for winter traffic in winter 22/23; and Section 4.1.4.2 now describes how the new calculated metrics of % vessel reduction in activity will be used through monitoring to validate the compensation measures. This will be the basis for providing an annual report summary of how effective the measure has been and how it compares to the predicted compensation ratio, highlighting the number of vessels which have deviated from the proposed routes and the reasons for this, as now described In Sections 4.1.4.2 and 4.1.4.3.<br><br>Natural England accepts that a consistent area-based approach is important, but it would also be useful to see not only the number of vessels that have deviated, but also the associated details, including the date, time and duration of such deviations, since RTD abundance and distribution shows temporal variation and more birds may be affected at certain times within the peak winter period.<br><br>SPR: Details on vessel deviations, as stated in this comment, have been added in to the RTDIMP. | |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | Finally, we recognise that navigation priority for project vessels remains to comply with the COLREGs (IMO, 1972/77) to ensure the safety of the vessel at all times, and the unavoidable impacts on the port-approach area as indicated in Figure 3. It would be extremely informative to have an annual summary provided, giving details of the frequency of deviation from the proposed vessel routes on every occasion the resulting route came within 2 km of the SPA and the reasons for such deviations. | | |
| NE 4 | 3.1.2 | Natural England maintains its position that the transitory effects of vessel movements are not equivalent to the perpetual presence of an offshore windfarm, and therefore we consider that a 'like-for-like' compensation ratio of 9:1 is based on a flawed premise. We also note that the compensatory ratios are based on the 'effective area of | This is acknowledged by SPR, and we also acknowledge the final decision by the Secretary of State. At this time, we are looking to ensure that what is being delivered in this updated RTDIMP is acceptable for discharging the DCO obligations. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | displacement' values, which we do not consider adequately reflect the extent of the impacts, compared to the area over which displacement effects could arise (92.58km2). However, we do recognise that the Secretary of State adopted both of the above approaches in their Appropriate Assessment. | | |
| NE 5 | 3.1.4 | This section is rather long and, for ease of future reference, could be broken into sub-headings. | This Section, which is now Section 4.1.4 has been broken down into sub sections for ease of reference. | CLOSED |
| NE 6 | Figure 4 | This Figure usefully highlights that there are multiple vessel movements through the area in question, only a proportion of which are (or will be) a result of SPR vessels. This means that if successful the rerouting will result in a reduction in the number of vessel movements but that it is far from clear whether the removal of these will make a meaningful difference to the level of disturbance that occurs, given the lengthy diver return time following vessel disturbance. | See response to NE 3 regarding % vessel removal, monitoring and validation.<br><br>Section 8 Adaptive Management of the updated version of the RTDIMP describes triggers/ thresholds for adaptive management based on monitoring and validating the vessel re-routing data. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | Given the requirement to test the effectiveness of the measure in order to inform adaptive management, Natural England considers there is a need to evaluate the compensatory measure in terms of the likely % reduction in overall vessel movements within 2km of the SPA, as well as simply the vessel movements from EA1 and EA3. In our view, given there will be no empirical monitoring, it would be appropriate for any triggers/thresholds to be set with respect to the overall reduction achieved. | | |
| NE 7 | 3.1.4, page 20, penultimate paragraph | *'Natural England maintain that this effect is evidenced to extend to 2km (Burt et al, 2022)'* – Natural England's advice is evidenced through Burger et al (2019) and Mendel et al (2019), both cited in the plan. We note that the former identified the potential for effects extending out to 3km and the latter out to 5km. | This paragraph of the report, which is now in Section 4.1.4.1 has been updated to reflect this comment. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| NE 8 | 3.1.4, page 21, first paragraph | As noted on 06 September 2024, this section is unclear regarding which vessels will have the VTMS, so we welcome the intention to clarify this. | This paragraph, which is now in Section 4.1.4.3 has been updated to clarify this point. The VTMS is the system which will be used to track all Project vessels and all vessels will be fitted with AIS. | CLOSED |
| NE 9 | 4 | Natural England suggests that the pre- and post-construction surveys of the OTE SPA and 10km buffer are conducted by the same contractor using the same methodology. Where possible, and weather permitting, one survey each in December, January and February would be preferred, ideally at 4-week intervals. As discussed at the Compensation Steering Group meeting (06/09/2024), the APEM 2013 OTE DAS report has been provided to yourselves separately for further information and advice. | Section 5.2 OTE SPA methods have been updated to take account of these comments. Methods now state that where possible surveys will be conducted in December, January and February ideally 4 weeks apart, and where appropriate reference has been made to the APEM 2013 study. | CLOSED |
| NE 10 | 4.2 | *'The results of the survey monitoring specifically abundance and distribution will be included in the RTDIMP annual reports to the RTDCSG'* – we consider this falls well short of the disturbance model | A new section, Section 5.4 has been added to the document to address this comment. The document (as stated in response to comment NE 1) now makes refence to the 11th March 2022 letter, and Section 5.4 provide information on methods of analysis of DAS survey data including modelling. As per email correspondence with NE over the past two months, we are also awaiting further comment on this to see how/if the data could also be used to | CLOSED |

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| | | creation committed to in the letter of 11 March 2022. We would be pleased to explore how the data collected might augment or be integrated into other modelling approaches that have been conducted (or are being considered), to see whether that might be an acceptable alternative option, but do not consider it acceptable for the RTDIMP to propose no modelling whatsoever. | augment or be integrated into other work either being conducted or considered. | |
| NE 11 | 5 | SPR's engagement with the strategic initiatives is welcomed. However, we do not consider this absolves EA1N/EA2 from the requirement to convene a partnership, particularly given the importance of user representation, which none of the strategic initiatives currently do. We highlight the following roles of the partnership:<br>(*i) improve understanding of disturbance and displacement effects on redthroated diver within the Outer Thames* | The partnership section of the RTDIMP, based on discussions during the last RTDCSG meeting (held 6trh September 2024) as well as the comment that has been raised here, has led to the partnership section of the RTDIMP being re-written. The updated RTDIMP now outlines in detail in Section 6 (6.1 and 6.2), the partnership approach the projects will take and the group, which will be a developer group, that will be convened by the projects. Section 6 also outlines what the objectives of the group will be, a list of proposed invites and a proposed timeframe of when the partnership meetings will commence and how frequently meetings will be. | CLOSED |

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| | | *Estuary SPA; (ii) identify and implement opportunities to reduce these effects; and (iii) ensure stakeholder engagement and liaison to raise awareness and communicate any proposed changes in usage*<br><br>We recommend that an updated RTDIMP includes a timetable for when the partnership will be set up e.g. prior to the collection of the first winter of SPA-wide surveys, a list of candidate invitees and an indication of meeting frequency. | | |
| NE 12 | 7 | The adaptive management process is logical and we agree that the particular measures to be used cannot be confirmed at this stage. However, we consider that a short list of potential options is included, to give DESNZ confidence that adaptive management options are available. At one end of the scale, this could include additional vessel management measures (routes, speeds, | Adaptive Management, now Section 8 of the RTDIMP has been updated. This update includes an outline of options which will be considered for adaptive management. The update is based on the comment raised here as well as discussions during the last RTDCSG meeting on 6th September 2024. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | convoying) or stakeholder engagement/liaison, and at the other, contributions to the creation and management of sanctuary areas within the SPA. | | |
| JNCC 1 | 3 | JNCC recommend that vessels transiting outside of the Outer Thames Estuary SPA should maintain a 2km buffer between vessels and the SPA boundary to prevent any disturbance to the SPA.<br><br>We recognise that where vessels are routed between parts of the SPA, the distance between SPA regions is less than the 4km required to keep a distance of 2km from the SPA boundary, and that this is largely unavoidable without having to route around the north of the SPA.<br><br>That being said, it will result in some residual disturbance to the SPA, which needs to be accounted for. This includes in the calculation of the compensation area, and in the | Section 3, which is now Section 4 (specifically Section 4.1.1 and 4.1.2) has been updated based on the comment raised here as well as discussions during the last RTDCSG meeting on 6th September 2024.<br><br>Figure 3 in Section 4.1.1. has been updated to show the proposed vessel routes that will be used for the compensation measure. The new route to the north of the OTE SPA is 2km from the SPA boundary. The route which passes between the two parts of the SPA has been optimised to reduce the residual impacts of vessel disturbance on the SPA as far as is practically possible by maintaining the maximum distance possible form the boundary, whilst also ensuring safety and adherence to COLREGs. The residual effects of the disturbance which will still occur from vessels where it is no possible to maintain a distance of 2km from the SPA boundaries has also been accounted for in the updated Scale of Compensation (Section 4.1.2) and subsequent compensation ratio. | CLOSED |

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| | | calculation involving the monitoring of vessel transits to validate that the compensation measure has been successfully implemented. | | |
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| RTDIMP Draft 2: RTDCSG Comments | | | | |
| NE 13 | General | Natural England advises that the inclusion of numbered paragraphs would be helpful to aid in review. | Whilst we recognise this would assist with review, unfortunately we are restricted with our current template and we are unable to add paragraph numbers in. | CLOSED |
| NE 14 | 2.1, Third Para | Natural England welcomes the development of the Outer Thames Estuary Special Protection Area (OTE SPA) monitoring requirements being based upon the letter to DEZNS (dated 11 March 2022) as detailed in the RTDIMP. | N/A | CLOSED |
| NE 15 | 2.3, Second Para | We advise that the second paragraph in this section should be updated to detail that the meeting in November 2024 did not go ahead. | The text has been updated and now details that the November meeting did not go ahead and that the second RTDIMP review cycle was dealt with via email and written responses. | CLOSED |
| NE 16 | Table 1 | We advise that the placeholder for the meeting on the 29th of November should be removed, as this meeting did not go ahead. | Table 1 has been updated to reflect that written comments on the second version of the RTDIMP were addressed via written correspondence rather than a third steering group meeting. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| NE 17 | Table 2 | As above, we advise that the placeholder for the meeting on the 29th of November should be removed, as this meeting did not go ahead. | Table 2 has been updated to reflect that written comments on the second version of the RTDIMP were addressed via written correspondence rather than a third steering group meeting. | CLOSED |
| NE 18 | Figure 3 | We welcome the clarification and additional detail included in the description of Figure 3. | N/A | CLOSED |
| NE 19 | 4.1.2, Fourth Para | We note that the ratio of 9:1 detailed in the SoS Decision Letter (31 March 2022) has now been recalculated to 4:9:1. | Note the ratio has been updated to 1:6.2. This is due to the recalculation of EA1 vessel movements (see Annex A in this comment log for further details), the expansion of the AIS data area to fully include EA1 vessel movements in the west, and the correct inclusion of all SPA areas within 2km of current AND future vessel movements as identified by JNCC. | CLOSED |
| NE 20 | 4.1.2.1 | We welcome Scottish Power Renewables (SPR)'s efforts to incorporate the feedback regarding the recalculation of the scale of compensation. | Note the ratio has been updated to 1:6.2. This is due to the recalculation of EA1 vessel movements (see Annex A in this comment log for further details), the expansion of the AIS data area to fully include EA1 vessel movements in the west, and the correct inclusion of all SPA areas within 2km of current AND future vessel movements as identified by JNCC. | CLOSED |
| NE 21 | 4.1.2.1, Second Para | We advise that the simulated vessel movements matching the East Anglia ONE AIS data is an acceptable approach. | Note the number of vessel movements has been updated from 367 to 531. This was due to identification of the AIS data "Section" attribute, which identified individual fixes to the same track, was erroneous in some cases (see Annex A in this comment log for further details). | CLOSED |
| NE 22 | 4.1.2.1, Sixth Para | Natural England advises that the permanent displacement effects of arrays and the transitionary impacts of vessels | We acknowledge that this advice has been NE's position throughout the development of the compensation measures for red-throated diver. However, the DCO conditions for compensation (Paragraph 3 of Schedule 18, Part 3 of the East Anglia ONE North Offshore Wind Farm Order 2022 (the 'East Anglia | CLOSED |

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| | | are not comparable or equivalent,<br>particularly in that the measure only results in a 14.9% reduction in traffic. | ONE North DCO'[12]) and paragraph 3 of Schedule 18, Part 3 of the East Anglia TWO Offshore Wind Farm Order 2022 (the 'East Anglia TWO DCO'[13])), require the Projects to deliver the measures as specified. As such, we consider this advice does not indicate that the RTDIMP is incorrect or deficient with regards to the compensation measures required to be discharged by the Projects. | |
| NE 23 | Table 5 | Natural England seeks clarification on which part of the SPA the data are referring to within Table 5, as well as how the data in the 'No. in SPA <2km from vessels' column were calculated. | Additional information has been added into Table 5, to provide context on what data are being referred to as well as how the data within the No. in SPA have been derived.<br><br>We require further clarification on Table 5, namely if it is an actual spatial and temporal analysis of East Anglia 1 vessel traffic and RTDs, or if it just theoretical.<br><br>SPR: Table 5 shows historical data from EA1N and EA2 surveys which overlap the area within 2km of the EA1 vessel traffic, so it is a subset of actual data. The purpose of this is show the variation in diver densities as is explained in the text which accompanies the table in the RTDIMP. | CLOSED |
| NE 24 | 4.1.4.1, Fifth Para | Natural England notes that Digital Aerial Surveys (DAS) surveys record anthropogenic structures within the survey area, including vessels down to type. These are time-stamped on the DAS. We advise that with | We understand that DAS surveys can detect structures/vessels, and that AIS data are time-stamped, however neither of these aspects address the limitations to the use of DAS as a method to monitor compliance with the compensation measures which are explained in the RTDIMP. | CLOSED |

[12] East Anglia ONE North The East Anglia ONE North Offshore Wind Farm Order 2022 (planninginspectorate.gov.uk)
[13] East Anglia TWO The East Anglia TWO Offshore Wind Farm Order 2022 (planninginspectorate.gov.uk)

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | this, combined with concurrent time stamped Automated Identification Systems (AIS) data a study could be attempted similar to Burger et al. (2019), who used AIS data to plot vessels tracks by calculating speed and direction between data points (section 2.5.1 of the paper). This allowed them to investigate densities and distribution of red-throated diver (RTD) in relation to vessels, within a specific time and distance window. We advise that prey distribution and other covariates would be irrelevant in a study of this nature. | A key difference between the Burger et al. (2019) study and using DAS for monitoring vessel re-routing is that their study analysed data from all vessel movements whereas the vessel re-routing only comprises circa. twice daily O&M vessel movements. The use of DAS for monitoring the vessel re-routing compensation measure was previously acknowledged by all steering group members, including representatives of NE during RTDCSG meeting 1 (EA1N-DWF-ENV-PRG-IBR-000001 and EA2-DWF-ENV-PRG-IBR-000001). This approach had not changed in the latest draft and therefore we provide no changes to the document.<br><br>It should be noted that the relationship between all vessel movements and RTD disturbance will be explored within the OTESPA plus 10km survey and subsequent analysis, similar to the Burger et al., (2019), as per requirements stated in DCO's paragraph 3 of Schedule 18, Part 3 bullet point (e).<br><br>Natural England agrees that it is not considered feasible to monitor the vessel re-routing compensation measure using DAS to estimate changes in RTD abundance along vessels routes and highlight that we have not changed our position on this since it was first agreed in RTDCSG meeting 1 (EA1N-DWF-ENV-PRG-IBR-000001 and EA2-DWF-ENV-PRG-IBR-000001).<br><br>However, the 6 digital aerial surveys pre- and post-construction for the OTE SPA + buffer, which will provide geo-referenced and timestamped records of both RTD and vessels across the SPA, give an opportunity for a more detailed analyses of the spatial and temporal relationship between RTD and all vessel proximity, as undertaken in the southern North Sea (German Bight) by Burger | |

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| | | | et al (2019) and Mendel et al (2019). We therefore welcome the Applicant's undertaking in the Comments and Responses Log that this is their intention and request that this intention is stated specifically in the RTDIMP.<br>We suggest that to increase the size of the dataset of RTD and vessel observations and improve the robustness of any findings, the analysis is based on all the pre- and post-construction surveys, which will be conducted 3 times over the winter period (in December, January and February) for 2 years pre- and 2 years post-construction).<br><br>SPR: The intention to analyse the relationship between all vessel movements and RTD disturbance within the OTESPA plus 10km survey and subsequent analysis, similar to Burger et al., (2019), is stated in the third paragraph of Section 5.4 of the RTDIMP.<br><br>Paragraph 3 of Schedule 18 , Part 3 bullet point C of the DCO for both projects, requires that the projects should undertake two winters of DAS surveys (3 surveys pre-construction and 3 surveys post-construction) over the OTESPA plus a 10km buffer. This is what the projects are committed to carrying out. This level of survey work i.e. 6 surveys in total, would be greater than the number of surveys completed for previous SPA wide surveys (APEM, 2013 & Irwin, 2019), and would also be greater than the number of surveys completed by Burger et al, 2019. | |
| NE 25 | 4.1.4.2, Penultimate Para | We advise that the last paragraph of this section should be edited to detail that Mendel et al.'s regression models revealed that ships within 5km | As advised this paragraph has been reworded to reflect the points raised. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | had a strong impact on diver abundance, suggesting that ships may affect divers most strongly at a distance of ≤5 km, and that Burt et al (2022) found that the important distance to the nearest ship was also about 2km.<br><br>We note the line that 'Natural England maintain that this effect is evidenced to extend to 2km'. We would also note that the two papers sited in this paragraph provide evidence to this effect and also that effects may arise over a greater distance. We advise that SPR may wish to re-word this paragraph. | | |
| NE 26 | 4.1.4.2, Final Para | Natural England advises that the approach using the recalculated compensation ratio of 4:9:1 is agreeable. | Note the ratio has been updated to 1:6.2. This is due to the recalculation of EA1 vessel movements (see Annex A in this comment log for further details), the expansion of the AIS data area to fully include EA1 vessel movements in the west, and the correct inclusion of all SPA areas within 2km of current AND future vessel movements as identified for JNCC. | CLOSED |
| NE 27 | 4.1.4.3, Final Para | Natural England recommends that East Anglia ONE OWF is listed here as a project that has a Vessel Traffic Management | East Anglia ONE has been added to the text. | CLOSED |

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| | | System (VTMS) proposed, for completeness. | | |
| NE 28 | 5.2, Second Para | Natural England questions whether the 'Location / coordinates (to one (1) metre accuracy)' pint refers to individual birds; if this is the case, we advise that this method may not be attainable. | This has been updated to 2 metres but is variable depending on differential GPS at the time of survey. | CLOSED |
| NE 29 | 5.2, Final Para | Natural England agrees with the approach to conduct one survey in December, January and February. | N/A | CLOSED |
| NE 30 | 5.4, Second Para | We advise that several studies have shown chlorophyll-a correlates with SST (and salinity), and we are therefore unsure as to how this collinearity will be addressed if modelling both together. Salinity may also be a useful co-variable to include in the absence of any other consideration of prey, i.e. fish spawning and nursery grounds (stratification of waters of differing salinities thought to concentrate prey; Dorsch et al., 2019; Skov and Prins, 2011). | The list of the co-variates was provided as an example and was from the APEM 2013 paper, which NE previously asked us to reference as a model for the OTE SPA surveys during RTDCSG meeting 2 (Doc: IBR-MM-000447).<br><br>Model selection will be completed at the time of modelling depending upon best fit criteria. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| NE 31 | 5.4, Second Para (Bullet Points) | Natural England advises that the use of generic datasets risks drawing overly broad conclusions about what influences RTD distribution/density, and a more specific investigation of conditions at the time of each survey (e.g. tidal state and consequent water depth during image collection) may be more revealing, assuming those data are available. The front between the North Sea and the estuarine river outflow is highly dynamic (Becker et al, 1992) and favourable conditions may change at meso-and even micro-scale resolutions.<br><br>We question how 'distance from shipping activity' will be measured. Generic datasets for shipping routes and/or traffic separation schemes will likely give little insight into the influence of vessel presence on RTD densities and distribution, and this has been used for Project Speed already. We | We will use the finest resolution datasets available at the time of survey. Regarding vessels our intention is to use AIS data to enable accurate calculation of distances to RTD, which will be incorporated into the model. Commitment added to Section 5.4.<br><br>We are unclear what Project Speed is, but SPR participate in all offshore wind industry groups and forums and actively engage with all key regulators and stakeholders. | CLOSED |

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| | | strongly recommend the use of AIS data contemporaneous with the DAS data, as this would yield more specific results, and it is currently not clear how SPR will factor in vessels into the modelling.<br><br>In addition, we seek clarification regarding if SPR will know what the Project Speed outputs are. | | |
| NE 32 | 6.1, Third Para | Natural England advises that there are some inaccuracies within this paragraph. The initial group was set up by Defra, Natural England, the MMO, and DESNZ, but not under the Collaboration in Offshore wind Strategic Compensation (COWSC) banner. This was paused following MMO needing to explore whether there is a mechanism to include existing OWF projects in the scope of the work (specifically London Array). The MMO have indicated this exploration is ongoing. In the meantime, after Year 1 of COWSC there was an exercise to identify priority | The text in this section has been updated based on the information provided in this comment from NE. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | strategic compensation measures including RTD, which then became a formal workstream with the Offshore Wind Industry Council (OWIC) as the representative. | | |
| NE 33 | 6.2, First Para | Natural England welcomes this idea, but to meet the e) i) and e) iii) requirements of the Development Consent Order (DCO), the group membership needs to include users/regulators other than OWFs, i.e. relevant ports, councils, the MMO, user groups etc. We appreciate that SPR cannot compel other parties to attend, but we advise that they should be invited.<br>Furthermore, we would also recommend SPR to share the results of the monitoring/modelling, as per e) i) of the DCO. | Additional text has been added to this section in order to address this comment. | CLOSED |
| NE 34 | 8, Second Para | Natural England advises that given the difference between the displacement effects of the OWF and the disturbance caused by vessels, a 3:1 ratio | The text in this section has been updated to address this comment. The text now describes the steps that would be taken at a ratio of 3:1, in terms of a review process, implementation of changes, data monitoring and adaptive management. | CLOSED |

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| | | may be more appropriate to trigger a review. | | |
| NE 35 | 8, Third Para | Natural England requires clarification on how 'the data would be analysed further to understand why a disproportionally high number of vessels have increased disturbance on the OTE SPA and if these could realistically be reduced, particularly if there are common themes such as deviation from the vessel management corridor due to uncertainty around how binding the corridor is or due to weather/tidal conditions'. | The AIS data from the VTMS would be analysed to look at the frequency of deviations and reasons for them, as the reasons will be recorded in the VTMS by the MCC. | CLOSED |
| NE 36 | 8, Fourth Para | We recommend that SPR includes examples of optimisation of vessel routes to allow for flexibility while limiting disturbance to the OTE SPA. | Additional text including an example has been added to this section. | CLOSED |
| JNCC 2 | Table 4 | What is in included in the calculation of (e) OTE SPA affected area = 338.1km2? Is it just the area of the darker blue boundary in Figure 6, where the compensation is applied, or does it also account for those | JNCC identified an error in the original calculation where the area within the SPA affected by vessel traffic was based only on the existing traffic, and did not include a small area which would be within 2km of the re-routed traffic for EAOne. The analysis was revised to ensure this area was included and is now visible on the relevant figures and all numbers were recalculated. At the same time, it was evident that a small number of AIS vessel tracks to the | CLOSED |

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| | | parts of the SPA where EA vessels will inevitably still impact the SPA, between the north and south sections? I.e. removing a bit of area where disturbance will still occur?<br><br>In order to calculate the actual compensation ratio, will the same calculation be used as in Table 4, i.e. (d) Reduction in vessel activity * (e) OTE SPA affected area?<br><br>It would be worth clarifying these in the RTDIMP. | west were clipped from the AIS data area, therefore additional AIS data was obtained to fill this area. The revised calculations take into account changes from both the original error and the additional AIS data.<br><br>In the future, the actual compensation ratio will use the same calculation as in Table 4 based on actual AIS data. | |
| JNCC 3 | 4.1.2.1. Recalculation of the Scale of Compensation | Whilst we may not agree with the use of effective displacement area to calculate the impact of displacement due to offshore wind farms, we do agree with the method employed to calculate the effective area of compensation given that there will be remaining vessel movements within the SPA and 2km buffer. It is also helpful that these are both quantified using the same metrics. Therefore, in this | Note the ratio has been updated to 1:6.2. This is due to the recalculation of EA1 vessel movements (see Annex A in this comment log for further details), the expansion of the AIS data area to fully include EA1 vessel movements in the west, and the correct inclusion of all SPA areas within 2km of current AND future vessel movements as identified by JNCC. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | instance, we are content with these methods being used for this specific purpose. | | |
| JNCC 4 | 8. Adaptive management | We agree with the proposal to, in the first instance, analyse data to understand why a disproportionally high number of vessels have increased disturbance on the OTE SPA. However, we recommend that this is carried out before the compensation ratio drops below 1:1. This would enable adaptive management measures to be considered, and enacted, before the compensation ratio drops below 1:1, and before a compensation deficit is encountered.<br>The compensation ratio will be used on an annual basis to evaluate the vessel re-routing compensatory measure. Should the compensation ratio gradually or suddenly decline, there may be a significant amount of time before it is known whether the compensation ratio drops | The text in this section has been updated to address this comment. The text now describes the steps that would be taken at a ratio of 3:1, in terms of a review process, implementation of changes, data monitoring and adaptive management. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | below 1:1. The reporting would ideally look for trends in the compensation ratio in order to understand whether there is an indication that there is a drop in the compensation ratio.<br><br>We recommend that the trigger for adaptive management is revisited in light of these comments. | | |
| RTDIMP Draft 3: RTDCSG Comments | | | | |
| NE 37 | Section 4.1.4.3 | Natural England would like to see more detail in the reporting of each vessel deviation (including date, time and duration), because red-throated diver (RTD) distribution and abundance appears to show temporal variation within the Outer Thames Estuary Special Protection Area (OTE SPA). For example, one deviation later in the season may cause more disturbance than several earlier on. We advise that you should use these data to calculate percentage reduction proposed vs. actual. | We acknowledge this comment from NE and will update the RTDIMP to include the information that will be collected for each vessel deviation such as date, time, duration etc. as suggested. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| NE 38 | Table 5 Section 4.1.4.1 | We require further clarification on Table 5, namely if it is an actual spatial and temporal analysis of East Anglia 1 vessel traffic and RTDs, or if it just theoretical. | The table shows historical data from EA1N and EA2 surveys which overlap the area within 2km of the EA1 vessel traffic so it is a subset of actual data. The purpose of this is show the variation in diver densities as is explained in the text which accompanies the table in the RTDIMP. | CLOSED |
| JNCC 5 | Table 4 Section 4.1.2.1 | One of the values in Table 4. Scenario (a) "Without compensation" mean vessel activity has reduced, but you appear to have found additional vessel movements due to splitting of tracks and some tracks previously being clipped from the AIS data. The number of routes has gone up to 531, but the mean vessel activity has gone down. I may be missing something here but I'm not sure I understand how that works? | The reason for the reduction identified in mean vessel activity in Table 4 is due to the increased area of AIS data analysed for this revision. The AIS data is binned into a raster where each cell is 0.005 degrees (equivalent projected size of circa. 338m x 555m), and the number of vessel movements within 2km of each cell is summed to give a total value for each cell in the raster. In the first version, the AIS raster had 4680 cells with a cell sum of 1,242,807 vessels, which gave a mean cell value of 265.6 vessels/cell. The revised version has an AIS raster of 6003 cells with a cell sum of 1,412,805 vessels, which gave a mean cell value of 235.3 vessels/cell. Therefore, the revised AIS area was larger but included areas with lower vessel traffic, therefore diluting the mean. Since the same calculation was undertaken for the proposed "with compensation" scenario the mean value was also lower, and it is the ratio between the two which calculates the compensation provision. | CLOSED |
| RTDIMP Draft 4: DESNZ Comments | | | | |
| SoS 1 | 4.1.1 | Provide further detail within Section 4.1.1 of the thresholds above which the 'reasonable extenuating circumstances' would trigger vessel deviation and the protocol that would be followed to return vessels to the | Further detail added to Section 4.1.1 to describe the circumstances and protocol used to manage vessel deviations. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | vessel navigation management transit routes once such circumstances pass. | | |
| SoS 2 | 4.1.1 | Provide an analysis, where possible, of how often deviations from the vessel navigation management transit routes due to 'reasonable extenuating circumstances' may occur. This analysis should also evaluate the potential maximum duration of such deviations, considering worst-case scenarios, during the re-routing period from 1 November to 31 March. | A review of deviations from existing crew transfer vessel operations from November 2024 – March 2025 was undertaken to analyse the frequency of route plan deviations. There are presented in Section 4.1.1 with a worst-case scenario analysis of impacts on the compensation ratio. | CLOSED |
| SoS 3 | 4.1.1 | Replace the wording, as underlined, in Section 4.1.1: "Once implemented for each project the vessel transit routes will be in effect for each subsequent core winter period (as previously defined) for all Projects and would continue until decommissioning was complete, unless evidence is collected that confirms these measures are no longer required" with "unless otherwise agreed by the | Wording replaced as requested. | CLOSED |

| Consultee Reference | Section/paragraph | Consultee Comment | Response / Update | Status (open/closed) |
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| | | Secretary of State." For the purposes of the Habitats Regulations the Secretary of State is the appropriate authority, and as such, it is for him to determine whether compensation measures can be varied or whether they are no longer required. | | |
| SoS 4 | 5.4 | Provide an explicit commitment in Section 5.4 to use the highest resolution datasets available in the model-based analyses of red-throated diver distribution and densities in the OTE SPA, as agreed in the Agreement Log and advised by Natural England. | Explicit commitment added to Section 5.4. | CLOSED |

# 11. APPENDIX 2 – ORNITHOLOGICAL BY-CATCH REDUCTION IMPLEMENTATION AND MONITORING PLAN

PLAN

# APPENDIX B: ORNITHOLOGICAL BY-CATCH REDUCTION DELIVERY PLAN

| | | | |
|---|---|---|---|
| **Project** | East Anglia ONE North and TWO Offshore Windfarm | | |
| **Doc. ID** | EA1N-GEN-CNS-PLN-IBR-000157 and EA2-GEN-CNS-PLN-IBR-000112 | **Classification** | Confidential |
| **Rev.** | 2 | **Page** | Page 1 of 50 |
| **Date** | 18 October 2024 | **Status** | Approved |

| Prepared by: | Checked by: | Approved by: |
|---|---|---|
| GoBe Consultants Ltd | Catriona Burrow, Offshore Ecology Manager | Rachael Devine, Offshore Project Manager |

## REVISION SUMMARY

| Rev | Date | Prepared by | Checked by | Approved by |
|---|---|---|---|---|
| 1 | 05.06.2024 | GoBe Consultants Ltd | Catriona Burrow | Rachael Devine |
| 2 | 18.10.2024 | GoBe Consultants Ltd | Catriona Burrow | Rachael Devine |

## DESCRIPTION OF REVISIONS

| Rev | Page | Section | Reason for issue | Description |
|---|---|---|---|---|
| 1 | All | All | Issued for Review | New Document |
| 2 | All | All | Issued for Use | Updates based on Working Group comments |

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## ABBREVIATIONS

| | |
|---|---|
| **AOE** | Alde-Ore Estuary |
| **BMP** | Bycatch Monitoring Programme |
| **CEFAS** | Centre of Environment, Fisheries and Aquaculture Science |
| **DCO** | Development Consent Order |
| **DEFRA** | Department for Environment, Food and Rural Affairs |
| **EM** | Electronic Monitoring |
| **FFC** | Flamborough and Filey Coast |
| **ICES** | International Council for the Exploration of the Seas |
| **IMP** | Implementation and Monitoring Plan |
| **LBBCSG** | Lesser Black-Backed Gull Compensation Steering Group |
| **LBBIMP** | Lesser Black Backed Gull Implementation and Monitoring Plan |
| **MMO** | Marine Management Organisation |
| **NFFO** | National Federation of Fishermen's Organisation |
| **OTE** | Outer Thames Estuary |
| **RSPB** | Royal Society for the Protection of Birds |
| **RTDCSG** | Red-Throated Diver Conservation Steering Group |
| **RTDIMP** | Red-Throated Diver Implementation and Monitoring Plan |
| **SMP** | Seabird Monitoring Programme |
| **SoS** | Secretary of State |
| **SPA** | Special Protection Areas |

# 1. OVERVIEW AND REQUIREMENTS

## 1.1 INTRODUCTION

East Anglia ONE North and TWO offshore windfarms both received consent on 31 March 2022. In consenting both projects, the Secretary of State (SoS) concluded that an adverse effect on the integrity (AEoI) of the Outer Thames Estuary Special Protection Area (SPA) could not be excluded due to potential disturbance and displacement of red-throated diver (*Gavia stellata*) for both the projects alone and in-combination. Additionally, the SoS concluded that an AEoI of the Alde-Ore Estuary SPA could not be excluded due to in-combination collision impacts on lesser black-backed gull (*Larus fuscus*). The SoS also concluded that an AEoI of the Flamborough and Filey Coast SPA could not be excluded due to in-combination collision impacts on black- legged kittiwake (*Rissa tridactyla*). Therefore, both East Anglia ONE North and TWO are required to provide compensation for these three species. The compensation measures proposed for these three species are discussed in their respective Implementation and Monitoring Plans (IMPs).

In addition to the primary compensation measures, a secondary compensation measure proposed was to support practical management measures to reduce accidental ornithological by-catch in fisheries. This Ornithological By-Catch Reduction Delivery Plan, hereafter referred to as the "Delivery Plan", focuses solely on the delivery of the ornithological by-catch reduction compensation measure.

## 1.2 CONSENT REQUIREMENTS

This Delivery Plan has been prepared pursuant to Paragraph 3 (f) of Part 2 (Lesser black-backed gull Compensation Measures) and Paragraph 3 (f) of Part 3 (Red-throated diver Compensation Measures) of Schedule 18, of the East Anglia TWO Offshore Wind Farm Order 2022 (the 'East Anglia TWO DCO') and Paragraph 3 (f) of Part 2 and Paragraph 3 (f) of Part 3 of Schedule 18 of the East Anglia ONE North Offshore Wind Farm Order 2022 (the 'East Anglia ONE North DCO'). This document serves to discharge these provisions for both projects. The provision stipulates the document must include:

> *(f) details of the work in respect of ornithological by-catch measures as set out in Appendix 7 of the Offshore Ornithology Without Prejudice Compensation Measures, that could support practical management measures to reduce ornithological by-catch.*

## 1.3 APPROACH

The development of the ornithology by-catch reduction compensation measure is to be based on proposals set out in Appendix 7 of the Offshore Ornithology Without Prejudice Compensation Measures Report[1].

This Delivery Plan sets out further details on each of the actions outlined in the Without Prejudice Compensation Measures Report, the mechanism for delivery of these actions and the timescales involved. The development of this Delivery Plan has been discussed with the core members (Natural England and the Marine Management Organisation (MMO)) of the Ornithological By-Catch Reduction Technical Working Group and relevant by-catch experts to ensure expert input is incorporated and that the proposed delivery of actions is aligned with the wider by-catch reduction work that is ongoing around the UK.

East Anglia ONE North and TWO has ratified this Delivery Plan with all core members of the Ornithological By-Catch Reduction Technical Working Group prior to its inclusion in the Red-Throated Diver Implementation and Monitoring Plan (RTDIMP) and the Lesser Black-Backed Gull Implementation and Monitoring Plan (LBBIMP). The RTDIMP and LBBGIMP has then be consulted upon and ratified by the Red-Throated Diver Compensation Steering Group (RTDCSG) and the Lesser Black-Backed Gull

[1] Offshore Ornithology Without Prejudice Compensation Measures for East Anglia ONE North and TWO. Available at: https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/EN010077/documents [Accessed: May 2024].

Compensation Steering Groups (LBBCSG) prior to submission to the Secretary of State ('SoS') for approval in accordance with Schedule 18, Part 3 of the East Anglia TWO DCO and East Anglia ONE North DCO ('the Compensation Schedules'). This process is outlined below in Figure 1.

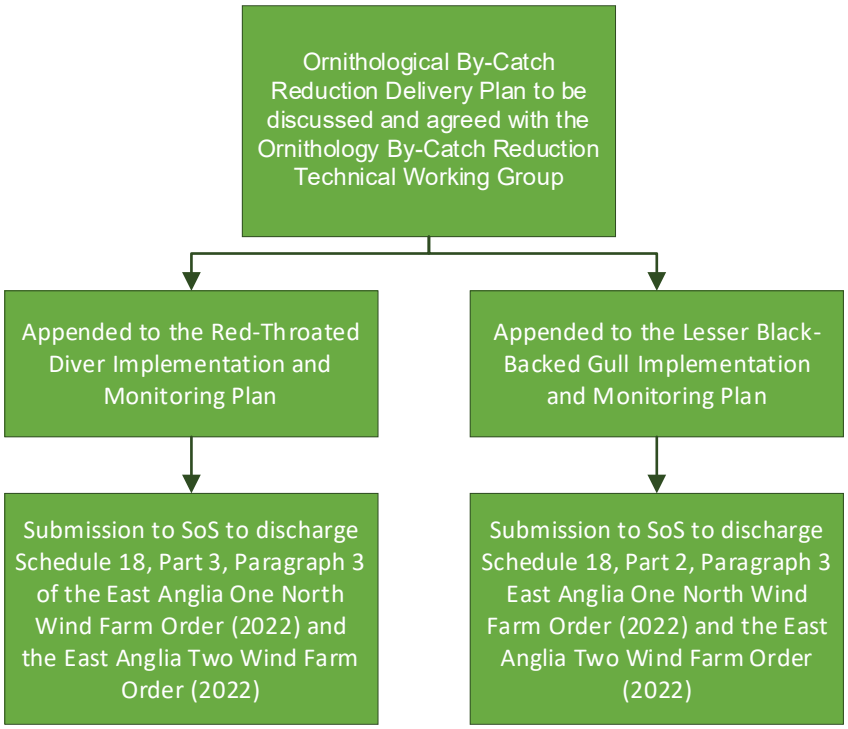


**Figure 1 Showing the process by which the Ornithological By-Catch Reduction Delivery Plan shall be submitted for discharge.**

## 2. CONSULTATION

This document sets out details of the secondary compensation measures in the form of the ornithological by- catch reduction compensation measures. This Delivery Plan has been developed by the Ornithological By-Catch Reduction Technical Working Group. A record of consultation and engagement with the Ornithological By- Catch Reduction Technical Working Group has been provided as an Agreement Log in Appendix 1 with the intention being that this agreement log be maintained and provided alongside any version updates to this document and future reporting (as detailed in Section 11).

## 3. SUMMARY OF PROPOSED MEASURES

Seabird by-catch from commercial fishing activity is recognised as a global concern (Žydelis *et al.*, 2013; Anderson *et al.,* 2011; Miles *et al.,* 2020) with approximately 100 species impacted worldwide (Dias *et al.*, 2019). Hundreds of thousands of seabird mortalities are estimated globally each year in gillnets (400,000; Žydelis *et al.,* 2013) and longline fisheries (320,000; Anderson *et al.*,2011). As such, by-catch is considered one of the top three threats to global seabird populations (Dias *et al.,* 2019).

The focus of research, and in turn by-catch reduction, has largely been on longline fishery by-catch, however there is evidence to suggest that gillnet fisheries likely pose a greater risk to global seabird populations (Žydelis *et al.*, 2013; Pott and Weidenfeld, 2017; Dias *et al.*, 2019). Despite this, on-board observer monitoring coverage is low relative to the scale of commercial fishing, and as such by-catch monitoring and reporting is limited (Pott and Wiedenfeld, 2017). Total by-catch mortality estimates are often derived from incidental recordings of by- catch and as long-term datasets available are limited to only a small proportion or recordings are from dedicated by-catch monitoring programmes (ICES, 2018).

Recent analysis of the UK Bycatch Monitoring Programme (BMP) data by Northridge *et al.* (2020) and Miles *et al.* (2020) has identified areas of concern around the UK and contributed to closing knowledge gaps. Within the UK, Northridge *et al.* (2020) identified static net (set gillnet) fisheries as an important fishery with regards to guillemot, razorbill and gannet by-catch, and longline fisheries as an important fishery with regards to gannet by-catch. However, the coverage of the UK BMP remains insufficient, with <1% of static net, 1-2% of longline, and roughly 5% of midwater trawl fishing effort being monitored.

Given the impacts of by-catch on seabirds, and thus the potential benefits gained from building better knowledge and solutions to reduce by-catch, an ornithological by-catch reduction compensation programme was selected as the secondary compensation measure for East Anglia ONE North and TWO offshore windfarm projects under the compensation schedules for lesser black-backed gull and red-throated diver. It should be noted that whilst the consent requirements (as outlined in Section 1.2) focus on red-throated diver and lesser black-backed gull, the proposed ornithological by-catch reduction programme is a seabird bycatch programme, therefore providing benefits beyond just those two species; the Offshore Ornithology Without Prejudice Compensation Measures document showed that reduction in by-catch could have benefits for both lesser black-backed gull (*Larus fuscus*) from Alde-Ore Estuary (AOE) SPA and red-throated diver (*Gavia stellata*) from the Outer Thames Estuary (OTE) SPA and potential wider reaching benefits for other seabird species. Whilst recent UK-based studies (Northridge *et al.,*2020 and Miles *et al.,*2020) did not record red-throated diver by-catch, it has been widely recorded in other countries, as was highlighted by Miles *et al.* (2020), and Natural England (2023) stated entanglement in fishing gear is one of the primary causes of red-throated diver mortality.

The proposed ornithological by-catch reduction compensation programme will consist of the following five actions:

- Action 1 – Convene an ornithological by-catch reduction working group;
- Action 2 – By-catch monitoring;
- Action 3 – Investigate new by-catch reduction measures;
- Action 4 – Technology trials; and
- Action 5 – By-catch reduction fund.

This document discusses these actions in more detail, the programme for delivery, location, monitoring, reporting and potential outcomes for the five proposed actions, thereby setting out a plan for the implementation and monitoring of the programme.

## 4. PROGRAMME OF DELIVERY

The programme for delivery of the ornithological by-catch reduction compensation measure is outlined in Table 1.

**Table 1 Outlines the intended programme for delivery of the key Actions to be undertaken for the ornithological by-catch reduction compensation measure.**

| Actions | Approximate Proposed Timescales |
|---|---|
| Commence engagement with Ornithological By-Catch Reduction Steering Group | 2023 |
| First Ornithological By-Catch Reduction Working Group meeting held | 26th March 2024 |
| Finalised Plan of Works/Terms of Reference for the Ornithological By-Catch Reduction Working Group circulated | 13th May 2024 |

| Actions | Approximate Proposed Timescales |
|---|---|
| Provision of first draft of Ornithological By-Catch Reduction Delivery Plan circulated to working group for review and comment | 18th June 2024 |
| Second Ornithological By-Catch Reduction Working Group meeting held | 26th July 2024 |
| Second draft of the Ornithological By-Catch Reduction Delivery Plan incorporating member feedback distributed to working group for review and comment | Mid-October 2024 |
| Final version of the Ornithological By-Catch Reduction Delivery Plan incorporated into the Lesser Black-Backed Gull Implementation and Monitoring Plan for submission to SoS | October 2024 |
| Final version of the Ornithological By-Catch Reduction Delivery Plan incorporated into the Red- Throated Diver Implementation and Monitoring Plan for submission to SoS | December 2024 |
| Action 2: One year of monitoring of fishing vessels for seabird by-catch | Q1 2025 – Q1 2026 |
| Action 3: Investigate solutions for reducing sea by-catch through alternative fishing gear designs | January 2025 – November 2025 |
| Report produced detailing the methodology, analysis and results from the monitoring project. This will be circulated to the Ornithological By-Catch Reduction Working Group to help direct discussions and decisions on next steps. | Q2 2026 |
| Action 4: Trials undertaken of fishing gear solutions to reduce seabird by-catch at the direction of the working group (more information is included in Section 9) | June 2026 – June 2027 |
| Action 5: Fund set up to support fishermen in improving gear to reduce seabird by-catch | August 2027 onwards |

## 5. ACTION 1 – CONVENE AN ORNITHOLOGICAL BY-CATCH REDUCTION TECHNICAL WORKING GROUP

The first action outlined in this report is to convene an ornithological by-catch reduction technical working group with a focus on fisheries working around the East Anglia region or join any existing working groups with the same objective. Engagement with potential group members was undertaken throughout 2023 and with no working groups in the region already in progress, this action has been implemented with the formation of the "Ornithological By-Catch Reduction Technical Working Group". In order to maximise stakeholder input and make the process efficient, a joint technical working group has been convened to inform the delivery of the ornithological by-catch reduction compensation measures for both projects. The group comprises representatives of East Anglia ONE North and TWO offshore windfarm projects, Natural England and the MMO as core members. To ensure the group works in a collaborative way with

ongoing UK by-catch workstreams, the Ornithological By-Catch Reduction Technical Working Group core members have discussed and agreed to invite the following organisations to join the technical panel meetings as advisory members:

- RSPB;
- Joint Nature Conservation Committee (JNCC);
- DEFRA;
- Centre for Environment, Fisheries and Aquaculture Science (CEFAS);
- SMRU (co-ordinator of UK Bycatch Monitoring Programme);
- Eastern Inshore Fisheries and Conservation Authority (Eastern IFCA);
- Norfolk and Suffolk Wildlife Trusts; and
- Fishers representatives (National Federation of Fishermen's Organisations (NFFO)).

See Table 2 for a summary of the meetings held to date. Terms of Reference for the group have been discussed and agreed (see the agreement log in Annex 1 (Table A 1)). Updates on the meetings, discussions and agreements of Ornithological By-Catch Reduction Technical Working Group will be reported through an agreement log within the annual report (see Section 11 for reporting commitments).

**Table 2 Summary of Ornithological By-Catch Reduction Technical Working Group meetings.**

| Meeting | Date | Attendees | Context |
|---|---|---|---|
| Working Group #1 | 26 March 2024 | Natural England<br>MMO | Provide an overview and update on the by-catch reduction compensation measure. Discussion on the Plan of Works and Terms of Reference. Identify next steps for the Ornithology By-Catch Reduction Technical Working Group |
| Working Group #2 | 26 July 2024 | Natural England<br>MMO | Discuss the information contained within the Ornithological By-Catch Reduction Delivery Plan [DRAFT] (document references: EA1N-GEN-CNS-PLN-IBR-000157/EA2-GEN-CNS-PLN-IBR-000112), with a key focus on:<br>• Proposed timelines for programme delivery;<br>• Monitoring methodology (Electronic Monitoring and on-board observers (see Section 6 of the Delivery Plan);<br>• The location(s) of the by-catch monitoring and trials and the overlap of key species (red-throated diver and lesser black-backed gull) with fishing effort in the East Anglia region (see Section 10 of the Delivery Plan); and<br>• The decision tree process after the results of Action 2 (monitoring) become available (see Section 12 of the Delivery Plan).<br>Discuss the DCO condition Schedule 18, Part 2, Paragraph 5 for lesser black-backed gull in the context of the by-catch reduction measure. |

# 6. ACTION 2 - MONITORING

Action 2 is to undertake one year of monitoring, in collaboration with the East Anglia based fishing industry, to record seabird by-catch by species and quantity from long-lining and static net (set gillnet) fisheries relative to fishing effort.

A review of recent by-catch workstreams across the UK has been undertaken, the findings of which were presented as part of the briefing note provided before the first Ornithological By-Catch Reduction Technical Working Group (26th March 2024). The briefing note highlighted that further monitoring effort will be required to reduce by-catch risk of key species within the East Anglia region.

One year of monitoring will be carried out in line with the timescales presented in Table 1 in collaboration with fishers working around the East Anglia Region. The total number of fishers taking part in the monitoring will be discussed and confirmed with the Ornithological By-Catch Reduction Technical Working Group. SPR consultation with fishers has revealed the diverse nature of fishing methods used by individuals depending on a multitude of factors including catch market price, bait costs, fish abundance, regulations etc. include details of the methods deployed during the monitoring effort. The following information will be recorded in addition to recording any seabird by-catch events:

- GPS for locations of hauls;
- Sea state;
- Wind direction / speed;
- Water depth;
- Soak time;
- Target species; and
- Relevant gear information (e.g. net/line length and mesh size).

Images will be captured of any seabird by-catch events to aid with species identification, and where possible identify age and sex (noting sex will only be applicable for seaducks).

It should be noted that if no by-catch (or limited by-catch) of red-throated diver or lesser black backed gull is recorded during the monitoring the location, scale and/or scope of Actions 4 and 5 will be discussed and agreed with the Ornithological By-Catch Reduction Technical Working Group and reported through the reporting mechanisms outlined in Section 11 (also see Section 11 for further detail on adaptive management).

To monitor the contribution Action 2 has made to further understanding of seabird by-catch off East Anglia, monitoring should include (but not be limited to):

- Quantification of total fishing effort that the by-catch monitoring action was able to monitor (e.g. number of vessels, hours, hauls or metres of net); and
- Quantification of data collected by the by-catch monitoring action, e.g. hours of monitoring (by observers or cameras), total number of by-catch events recorded.

It is likely that other relevant information will be collected alongside this such as vessel type, net type, location of fishing activity etc. which will provide further insights into by-catch within these fisheries.

## 6.1 METHOD

The two main methods for undertaking monitoring on fishing vessels have been explored in more detail these are; Electronic Monitoring (EM) and on-board observers. Details of both methods alongside advantages and disadvantages are provided in the following sections. The decision on which method to implement will be decided following discussions with fisheries liaisons and representatives, and in consultation with the Ornithological By-Catch Reduction Technical Working Group, particularly taking into consideration group members' experience and feedback on each option. It is noted that both EM and on-board observers will be suitable to carry out this action.

### 6.1.1 Electronic Monitoring

EM systems are generally comprised of cameras, gear sensors, video storage, and satellite positioning (Ewell *et al.*, 2020). EM has been trialled within various fisheries globally as a complementary or alternative method to on-board observers (Ewell *et al.*, 2020; Murua *et al.,* 2020). A review undertaken by van Helmond *et al.* (2019) of 100 EM trials and twelve fully implemented EM programmes identified the three key benefits of EM.

Firstly, EM is considered a cost-efficient monitoring option in the medium to long term for fishing vessels, as large volumes of data can be collected once EM systems are installed. However, it is important to note an initial investment for the system equipment and installation is required (van Helmond *et al.,* 2019). Given the potential initial financial burden associated with EM systems, detailed costings will be needed to inform the decision as to whether EM or on-board observers are used during the by-catch monitoring. Furthermore, an EM system can provide a broader and more representative coverage of the fleet compared to on-board observers, as well as providing enhanced recording of fishing activity, which can be revisited at a later date (van Helmond *et al.,* 2019). Additionally, EM systems can increase crew safety by remotely monitoring vessel activities, thereby potentially reducing the need for on-board observers in hazardous conditions.

One of the downsides of EM that needs to be considered is that there is evidence to suggest EM is less effective in quantifying target catch in mixed-species net fisheries, where many individuals are hauled together (Lara-Lopez *et al.,*2012; van Helmond *et al.,* 2015). Therefore, if target catch, as well as by-catch, needs to be quantified, this downside needs to be considered.

It has also been reported that during EM trials on fishing vessels in the USA, obstructed views rendered footage unusable for analysis, despite the systems working properly. The main cause of data loss, which reached up to 48%, was unclear footage due to dirty lenses, often a result of the camera positioning challenges (van Helmond *et al.*, 2019). Additionally, crew members often blocked the camera view while working, particularly on smaller vessels with open decks or sorting tables, making video analysis challenging (Bergsson *et al.*, 2017; Needle *et al.*, 2015; Plet-Hansen *et al.*, 2019; Marine Management Organisation, 2013b).

Table 3 presents further advantages and disadvantages of using EM on fishing vessels, informed by van Helmond *et al.* (2019) and Bartholomew *et al.* (2018).

**Table 3 Pros and cons of using EM on fishing vessels to monitor seabird by-catch, based on Bartholomew *et al.* (2018) and van Helmond *et al.* (2019).**

| Pros | Cons |
|---|---|
| Potentially more cost efficient (compared to on- board observers) | Procurement timescales |
| Allows higher effort of monitoring as the system can monitor during adverse conditions unlike human on-board observers | Financial compensation to fishers may be required as EM systems require electricity use on-board |
| Data could feed into wider DEFRA EM trials and workstreams | Potential concerns from fishers around intrusion of privacy |
| Reduced Health and Safety risk | Requires initial financial investment in equipment |
| High and randomised coverage | Challenging set-up on small vessels (Are vessels large enough to accommodate gear without hindering operations?) |
| High spatial and temporal GPS resolution | Time and people needed to adjust set-up to match workflow, set-up unique to each vessel |

| Pros | Cons |
|---|---|
| High precision on effort estimation | Maintenance of equipment e.g. cameras must be cleaned |
| Provided verifiability of observations (replay) | High data storage demand |
| Independent recording of catch information | Requires training of video inspection personnel |
| High acceptance amongst fishers who have previously had EM installed on vessels | High resource requirement for video inspection personnel (unless automated) |
| | Can affect workflow for crew |
| | Risk of system failures |
| | Difficult to distinguish similar-looking seabird species |
| | Low acceptance in the fishing industry in general |
| | Coverage of the vessel is dependent on the field of view and positioning of the camera |

### 6.1.2 On-Board Observers

On-board observers have traditionally been used to monitor by-catch (Caretta *et al.*, 2004; Gales *et al.*, 1998; Rogan and Mackey, 2007) and target catch (Alfaro-Cordova *et al.*, 2017; Haigh *et al.*, 2002; Mangel *et al.*, 2013) on fishing vessels, including small scale fisheries (Doherty *et al.*, 2014; Mangel *et al.*, 2010; Ortiz *et al.*, 2016).The UK Bycatch Monitoring Programme (BMP) has used on-board observers on UK fishing vessels since 1996 to collect operational, environmental and catch/by-catch data to quantify by-catch rates of various protected species (Northridge *et al.*, 2020). One of the key advantages of having on-board observers on fishing vessels is their ability to provide real-time, firsthand data on catch composition, fishing practices, and environmental conditions (Bartholomew *et al.*, 2018). However, unlike EM these observations cannot be revisited at a later date unless the observer takes photographs (Bartholomew *et al.*, 2018).

Furthermore, there are limitations to relying solely on on-board observers. The cost of deploying and maintaining on-board observers can be significant, especially for small-scale or remote fisheries (van Helmond *et al.*, 2019). Data collected by on-board observers can be biased as a result of low fleet coverage (McCluskey and Lewison, 2008) and observer effects (Benoît and Allard, 2009; Faunce and Barbeaux, 2011). And there are safety concerns that need to be considered when using on-board observers especially during hazardous weather (van Helmond *et al.*, 2019).

Table 4 presents a list of the advantages and disadvantages of using on-board observers on fishing vessels to monitor by-catch.

**Table 4 Pros and cons of using on-board observers to on fishing vessels to monitor seabird by-catch, (Bartholomew *et al.*, 2018).**

| Pros | Cons |
|---|---|
| Potentially more (anonymity etc.) acceptable to the fishers | Lower monitoring effort (adverse conditions can prevent human on-board observers from going out on vessels) |

| Pros | Cons |
|---|---|
| More cost effective when number of days fishing is low | Lower coverage meaning rare catches/ event may be missed (may be a concern for red-throated diver by-catch) |
| Logistically easier | Higher health and safety risk |
| Whole vessel can be covered | Space required on smaller vessels for extra person |
| Multiple cues can be used to identify species e.g., visual, touch | Difficult to implement on a large spatial and temporal scale |
| Observers can alter position to aid identification | Behavioural changes as a result of observer presence |
| | Identification once and in real-time unless a picture is taken |
| | Potentially higher cost compared with EM (depending on coverage required) |

## 7. ACTION 3 - INVESTIGATE NEW MEASURES

The working group will investigate alternative fishing gear designs and/or new methods of gear, with the overarching aim of finding alternatives to the currently used gear types which may have the potential to reduce ornithological by-catch (which can then be trialled in Technology Trials (Action 4)). This action will be undertaken in parallel with by-catch monitoring (Action 2). Details on the methodology for this investigation will be decided with the Ornithological By-Catch Reduction Technical Working Group but is likely to take the form of a literature review, also supported by any findings published from other ongoing by-catch trial initiatives, such as The Cornwall Bycatch Project[2] and the trials undertaken by Ørsted as part of Hornsea Four Offshore Wind Farm's suite of compensation measures. In addition, the review will be informed by consultation with industry experts and other individuals and/organisations with knowledge of fishing technology. Findings from this Action will be reported to the Ornithological By-Catch Reduction Technical Working Group in the form of a report and will then feed into further discussions around Action 4. Findings will also be presented in the subsequent annual report.

## 8. ACTION 4 - TECHNOLOGY TRIALS

Action 4 is to undertake a year of at sea-trials of the alternative gears identified by Action 3, working in collaboration with the fishing industry as advised by the Ornithological By-Catch Reduction Technical Working Group. Controlled trials of alternative fishing gear designs, technology and/or new deployment/hauling methods will be carried out in East Anglia (subject to findings of the by-catch monitoring – see paragraph below), with methodology and wider plans advised by the working group and external advisors. This initiative includes compensating East Anglia fishermen on a non-targeted and confidential basis to deploy innovative technology, record catch values and species, and provide recommendations for future use. Additionally, fishermen will be paid to use alternative techniques with their current gear if a year of monitoring shows by- catch or potential by-catch risks (see Sections 9 and

[2] The Cornwall Bycatch Project is a joint initiative between the RSPB, Birdlife International, Cornwall Inshore Fisheries and Conservation Authority, Natural England (NE), and Cornish gillnet fishers. Further info: https://www.cornwall-ifca.gov.uk/looming-eyes (Accessed June 2024).

11 for use of the Fund (Action 5)). The results of these trials will be documented in a technical report and a plain English report for public dissemination to share findings and recommendations.

It should be noted that the implementation of at sea-trials will be dependent on the findings of the by-catch monitoring (Action 2). If little to no by-catch (or very limited by-catch) is recorded during the monitoring, carrying out technology trials in the East Anglia region may be deemed unnecessary through discussions with the Ornithological By-Catch Reduction Technical Working Group due to the lack of any benefit from a technology trial in that situation. This is due to the fact that conducting by-catch reduction trials in a region with little to no recorded by-catch is unlikely to provide useful information or data. Any decisions on the implementation of technology trials, or alternative actions in the event by-catch monitoring results conclude little to no by-catch, will be undertaken in collaboration with the Ornithological By-Catch Reduction Technical Working Group. Decision flowcharts outlining the interdependencies between the actions are provided in Section 11.

Monitoring the success of the at-sea trials would consist of (but is not limited to) the collation of information on:

- Environmental benefits achieved (e.g. anecdotal evidence from fishers of changes in by- catch following employment of new gear/methods and any changes in target catches as a result of new gear;
- Quantification of number of fishers and vessels participating in the trials;
- Quantification of amounts of each gear/equipment type or method trialled; and
- It could also include a narrative around willingness by fishers to partake in trials, and their feedback about their experience of using of the alternative gear/methods, and any impacts upon their fishing operations.

## 9. ACTION 5 - FUND

Action 5 will be to establish a fund to the total value of £500,000 to support fishers to make improvements to fishing gear and equipment to reduce by-catch of seabirds. The gear and equipment eligible will be informed by the recommendations that come out of Action 3 and 4 and will be advised through discussion with the Ornithological By-Catch Reduction Technical Working Group and wider UK by-catch work (such as the Clean Catch By-Catch Mitigation Hub). The fund will be administered by SPR.

It is envisaged that the fund will be used to support fishers in the East Anglia region in the first instance. However, if low numbers of by-catch are established from monitoring, the allocation and priorities of the fund will be discussed with the Ornithological By-Catch Reduction Technical Working Group in order that it is used in a way that will have the greatest benefit for the reduction of seabird by-catch. This may result in the fund being made available to a wider geographical region if agreed that this would be the most appropriate use of the fund by the Ornithological By-Catch Reduction Technical Working Group. SPR commit to the creation of a Heads of Terms for the fund which will detail the objectives of the fund, how fishers can apply and eligibility criteria, commitment to payment schedules, reporting obligations for successful applicants. This Heads of Terms will be discussed and agreed with the Ornithological By-Catch Reduction Technical Working Group and published through channels such as local fishermen's associations, known individual fishers and the Eastern Inshore Fisheries and Conservation Authority, to ensure the fund is accessible to all.

In order that the fund is used to support the highest benefit for the reduction in seabird by-catch in fishing gear, it is likely that any applicants to the fund will be required to provide information such as:

- Extent of their participation in the monitoring work undertaken as part of Action 2 or any other by-catch monitoring work;
- The gear they currently use and the gear they would like to replace or upgrade to;
- Their total fishing effort and location of fishing; and
- A commitment to using the new gear and self-reporting of any subsequent by-catch through the CleanCatch UK app (or best practice at the time).

The information required for application to the fund will be dependent on the results of Action 2 monitoring and discussion and agreement with the Ornithological By-Catch Reduction Technical Working Group on the most valuable use of the fund (i.e. target region, fishing method and high-risk species). Selection of successful applicants to the fund will be based on the potential scale in the reduction of seabird by-catch from the new gear type being requested, the likelihood of success and other criteria that will be discussed and agreed with the Ornithological By-Catch Reduction Technical Working Group.

Monitoring the ongoing commitment to the use of alternative fishing gear (or new methods) would require ongoing liaison with the fishing industry. Individuals will be expected to commit to the new gear having only disposed of old gear as part of a gear swap scheme if the alternative would be similar or better, or regulated against. The key monitoring components would be:

- Recording the uptake of alternative gear (or methodology changes) (e.g. numbers of fishers, amount/types of gear swapped, details of vessels taking part etc.); and
- Engaging with participants to record and assess incidences of by-catch after deploying new gear or methodology changes (including looking to collect anecdotal evidence from fishers of changes in bycatch following gear swap/methodology change).

Results on uptake including the proportion of successful applicants will be reported to the Ornithological By-Catch Reduction Working Group and the Secretary of State through the annual reporting process as detailed in Section 11.

# 10. LOCATION

The five key actions to the by-catch reduction compensation measure will focus on the East Anglia region as far as possible. This area was selected for two reasons. Firstly, focusing efforts in the East Anglia region can provide further detail of the level of by-catch of the species of concern for the Projects (red-throated diver and lesser black-backed gull) in relevant waters. In addition, ScottishPower Renewables, has a longstanding positive relationship with the fishing industry in that region, and a track record of ensuring co-existence between fisheries and offshore wind, having commissioned post-construction long-lining and trawling compatibility surveys on East Anglia ONE. As such there is an existing platform for working together. In the sections below, distributions of red-throated diver, lesser black-backed gull and fishing efforts are discussed and areas of overlap outlined. This information will be used to select the location(s) of the by-catch monitoring and trials, with decisions on locations consulted upon by the Ornithological By-Catch Reduction Technical Working Group.

It should be noted that if no by-catch (or limited by-catch) is recorded during the monitoring (Action 2), the location, scale and/or scope of actions 4 and 5 will be discussed and agreed with the Ornithological By-Catch Reduction Technical Working Group to ensure the work undertaken is of benefit to reducing by-catch (see Section 11). Furthermore, the methodology and wider plans for the trials will be informed by further discussions with the Ornithological By-Catch Reduction Technical Working Group. Any decisions on changes to the proposed location would be taken in consultation with the Ornithological By-Catch Reduction Technical Working Group and informed by research and detailed in annual reporting. For example, several by-catch hotspots were identified around the UK by Northridge *et al.* (2020) including the coast around Shetland, north of the Humber Estuary, and along the south of England; each of which were highlighted as key areas that would benefit from by-catch reduction effort.

## 10.1 RED-THROATED DIVER

The OTE SPA is located in the southern North Sea along the east coast of England, extending northward from the Thames Estuary to the marine area off Great Yarmouth on the East Norfolk Coast. In February 2018, HiDef conducted two aerial surveys of the OTE SPA, with red-throated diver being the most abundant bird species within the SPA (Irwin *et al.*, 2019). The population of red-throated diver was estimated to be 21,997 individuals within the 'original' OTE SPA and 22,280 individuals within the enlarged OTE SPA (i.e. approximately 3.5 times greater than the notified population of the original SPA designation of 6,466 individuals (2010) (Irwin *et al.*, 2019). The density estimate for red-throated diver

was 2.66 birds/km² during the first survey (equating to 10,136 birds) (Figure 2) and 5.78 birds/km² during the second survey (equating to 21,997 birds within the SPA) (Figure 3).

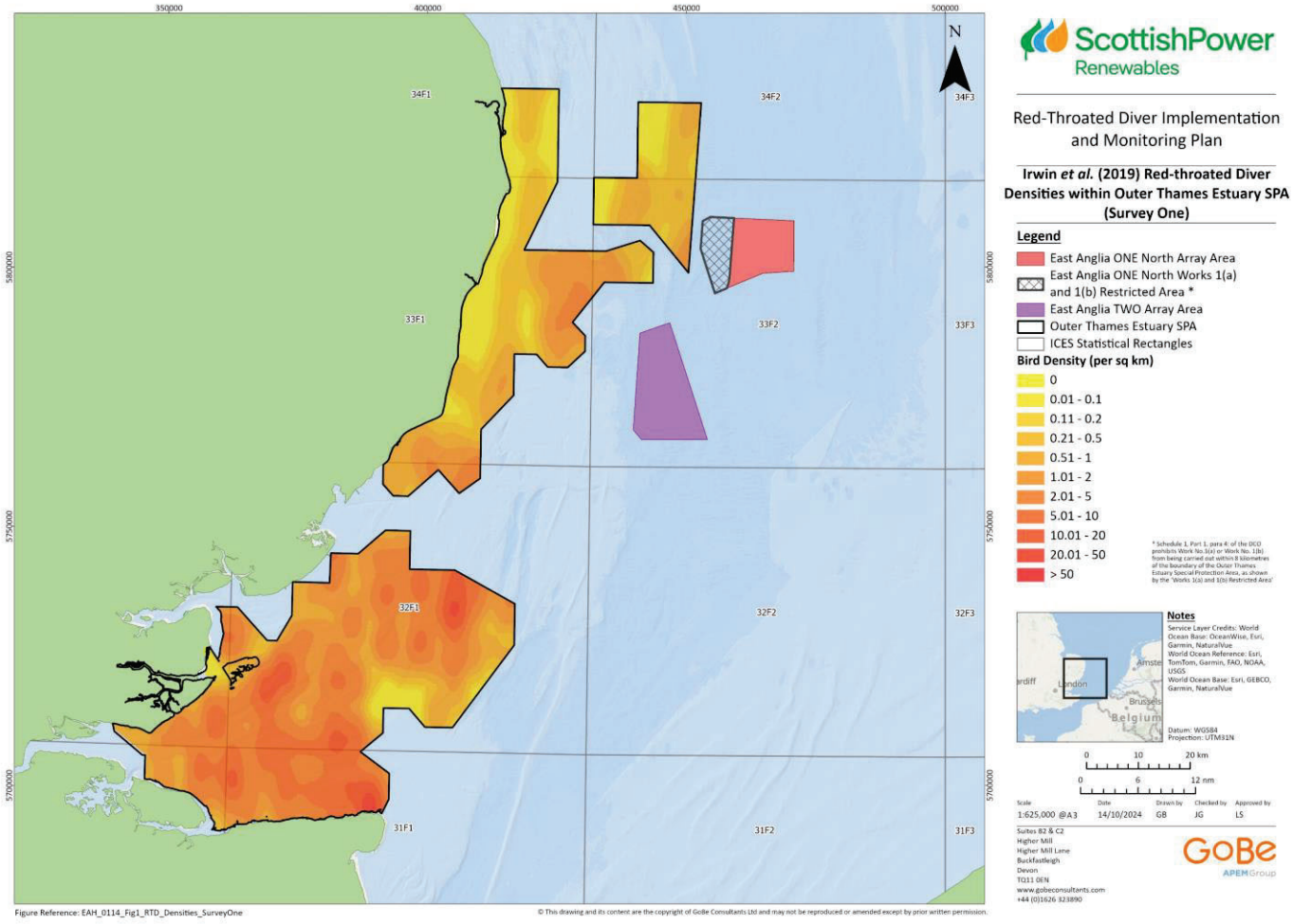


**Figure 2 Red-throated diver densities within Outer Thames Estuary SPA during Survey One (4 February 2018). Data source: Irwin *et al.* (2019).**

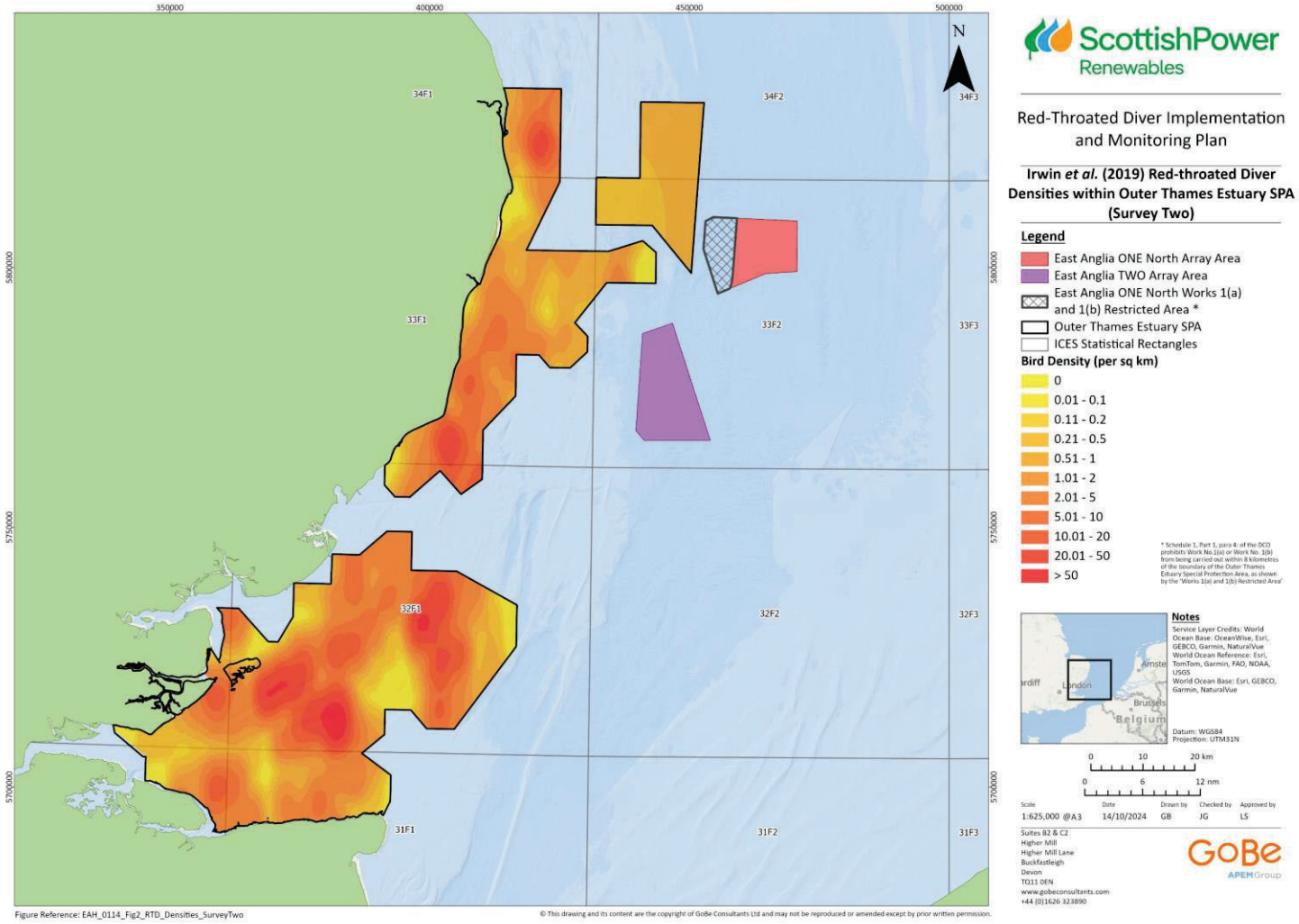


**Figure 3 Red-throated diver densities within OTE SPA during Survey Two (17 February 2018). Data source: Irwin *et al.* (2019).**

## 10.2 LESSER BLACK-BACKED GULL

AOE SPA is located on the east coast of Suffolk encompassing the estuary complex of the rivers Alde, Butley and Ore, and includes Havergate Island and Orfordness. As of 2023 this SPA supports a breeding population of 1,524 lesser black-backed gulls, according to the seabird monitoring programme (SMP) database (British Trust for Ornithology, 2024).

There is limited data available on the distribution of lesser black-backed gull in and around the AOE SPA. In order to identify important locations for lesser black-backed gull associated with the AOE SPA during the breeding season, monthly densities estimates derived from Waggitt *et al.* (2019) have been presented in Figure 4 (January to April), Figure 5 (May to August) and Figure 6 (September to December). This data was based upon 2.68 million km of aerial and vessel survey data were collected from 1980 to 2018. It should be noted, Waggitt *et al.* (2019) caveated that the data should not be treated as absolute densities and fine scale distribution, but rather as a representation of relative densities and broad scale distributions. Overall, the data shows lesser black-backed gull densities within the East Anglia region are highest during September and October (Figure 6). During the breeding season (April to August, Furness (2015)) lesser black-backed gull densities appear to be highest in and around the AOE SPA (Figure 4 and Figure 5).

Woodward *et al.* (2019) reviewed of measured foraging ranges for a wide range of seabird species including lesser black backed gull. The mean-maximum refers to the maximum range reported for each colony, averaged across all colonies for a particular species. Mean-maximum foraging rate for lesser black-backed gull is estimated to be 127±109km (Figure 7). Colony specific ranges were also provided by Woodward *et al.* (2019), Figure 7 illustrates the maximum foraging ranges from Orfordness (124km) and Havergate (22.5km) alongside the mean- maximum range (127±109km) for lesser black-backed gull. Based on foraging ranges presented in Woodward *et al.* (2019), there is the potential for lesser black-backed gull breeding at AOE SPA to forage across (and beyond) the East Anglia region, thus including the area within which the by-catch monitoring is proposed to occur (Action 2, see section 6).

During the breeding season lesser black-backed gull typically forage at sea, to a greater extent than other large gulls (Kubetzki and Garthe, 2003). There is evidence to suggest this species often feed on fishery discards, and as such are often observed interacting with fishing vessels (Leopold *et al.*, 2013; Vanermen *et al.*, 2020). Studies show that their foraging activity overlaps with commercial fishing effort, indicating they feed on fisheries discards (Camphuysen, 2013). While some gulls may be attracted to areas of high activity without feeding on discards themselves (Götmark *et al.*, 1986), the overlap between foraging trips and fishing activity, along with the presence of benthic fish in their diet, strongly suggests lesser black-backed gull are indeed feeding on discards (Camphuysen, 2013).

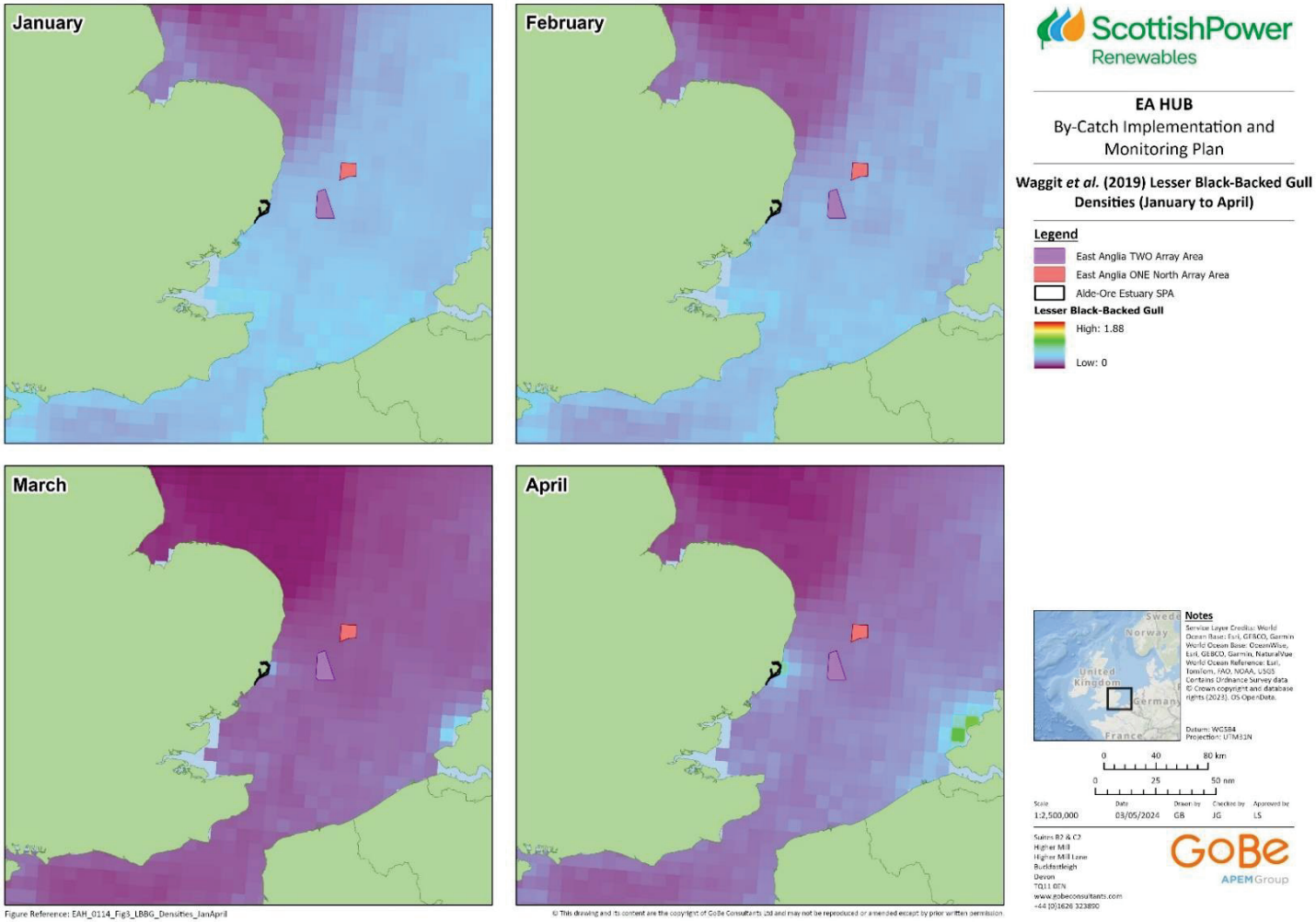


**Figure 4 Spatial variation in predicted densities of lesser black-backed gull (bird per km$^2$) in January to April. Values are provided at 10km resolution and colour gradient represents increase in densities. Data source: Waggitt *et al.* (2019).**

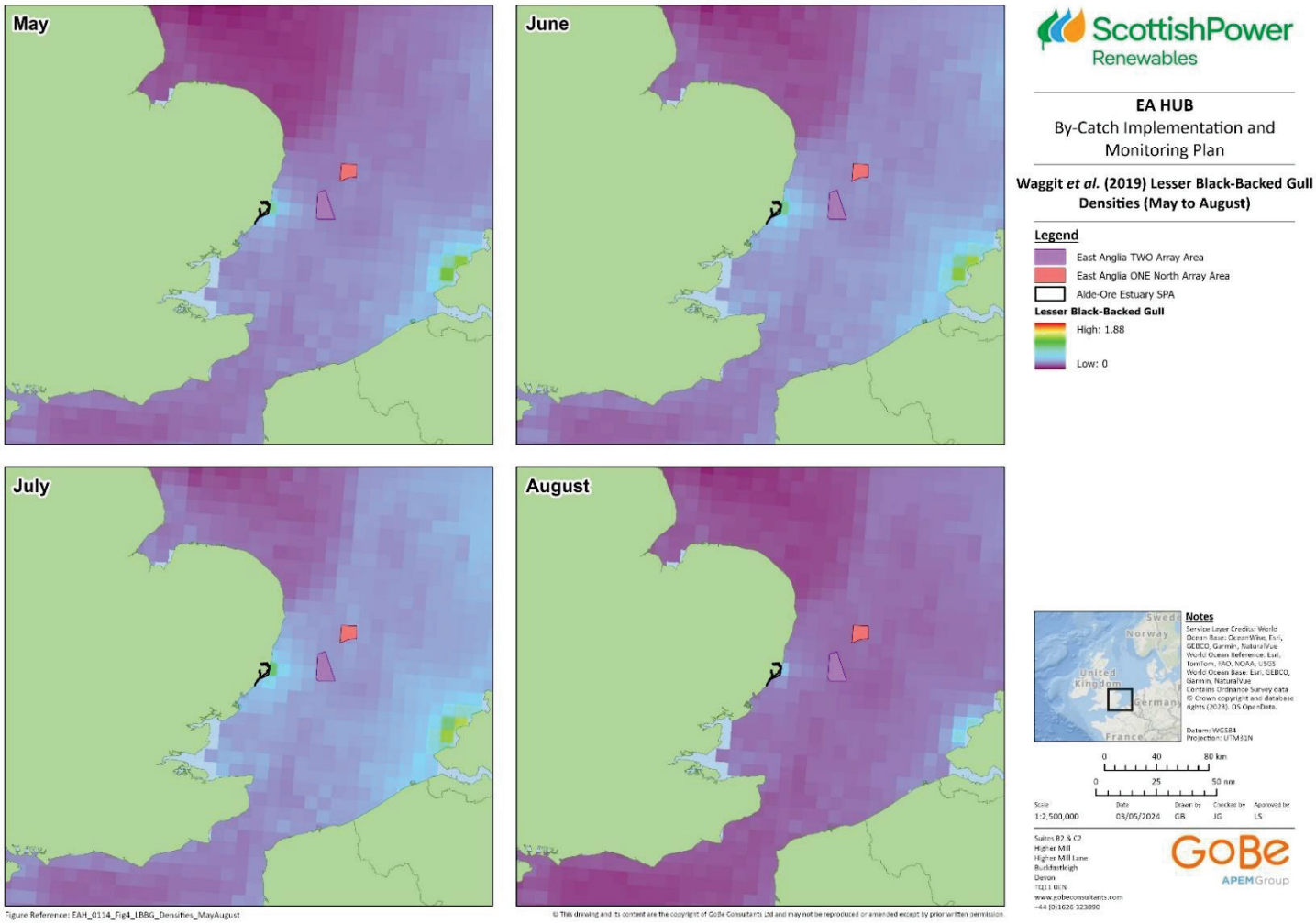


**Figure 5 Spatial variation in predicted densities of lesser black-backed gull (bird per km$^2$) in May to August. Values are provided at 10km resolution and colour gradient represents increase in densities. Data source: Waggitt *et al.* (2019).**

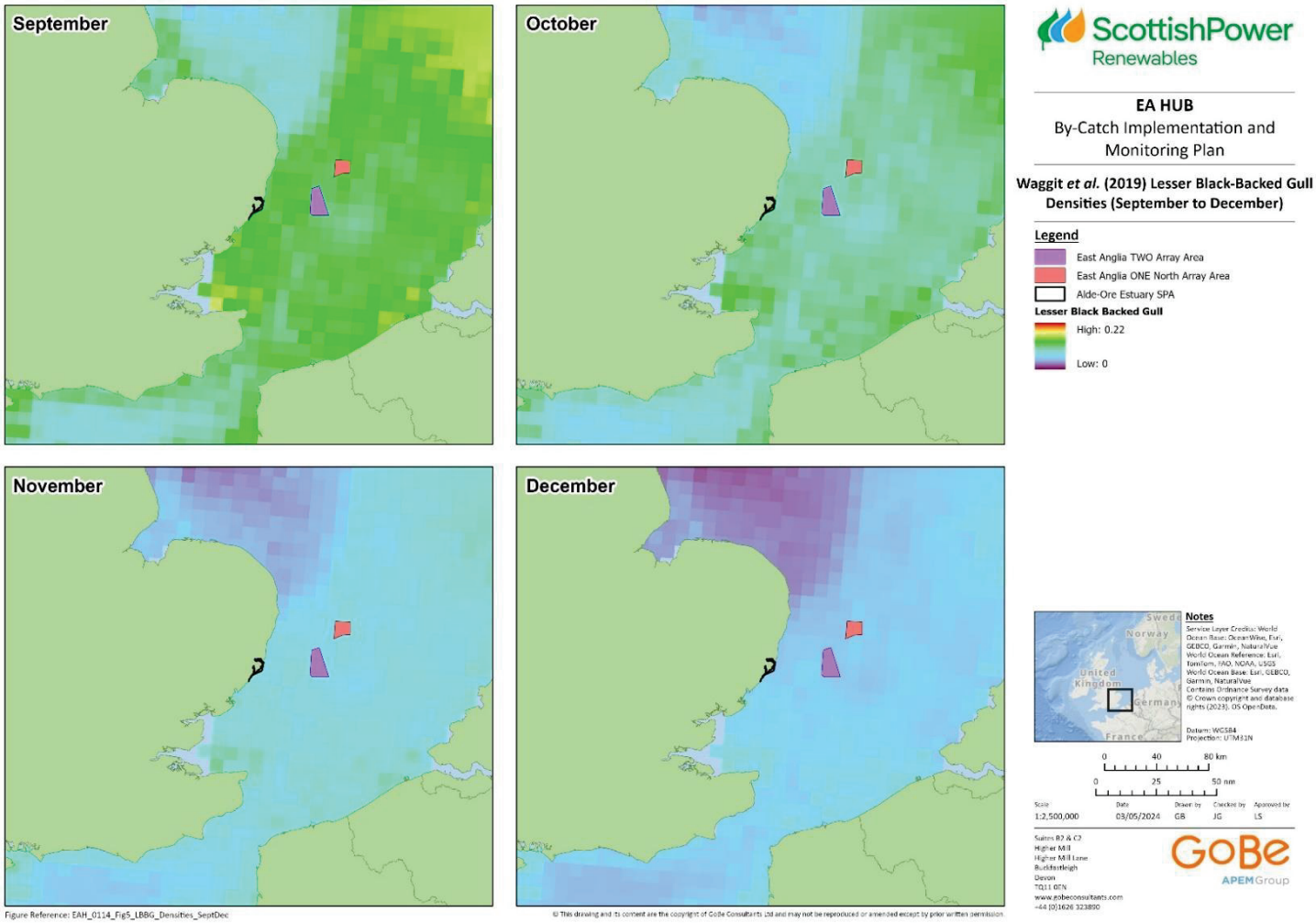


**Figure 6 Spatial variation in predicted densities of lesser black-backed gull (bird per km$^2$) in September to December. Values are provided at 10km resolution and colour gradient represents increase in densities. Data source: Waggitt *et al.* (2019).**

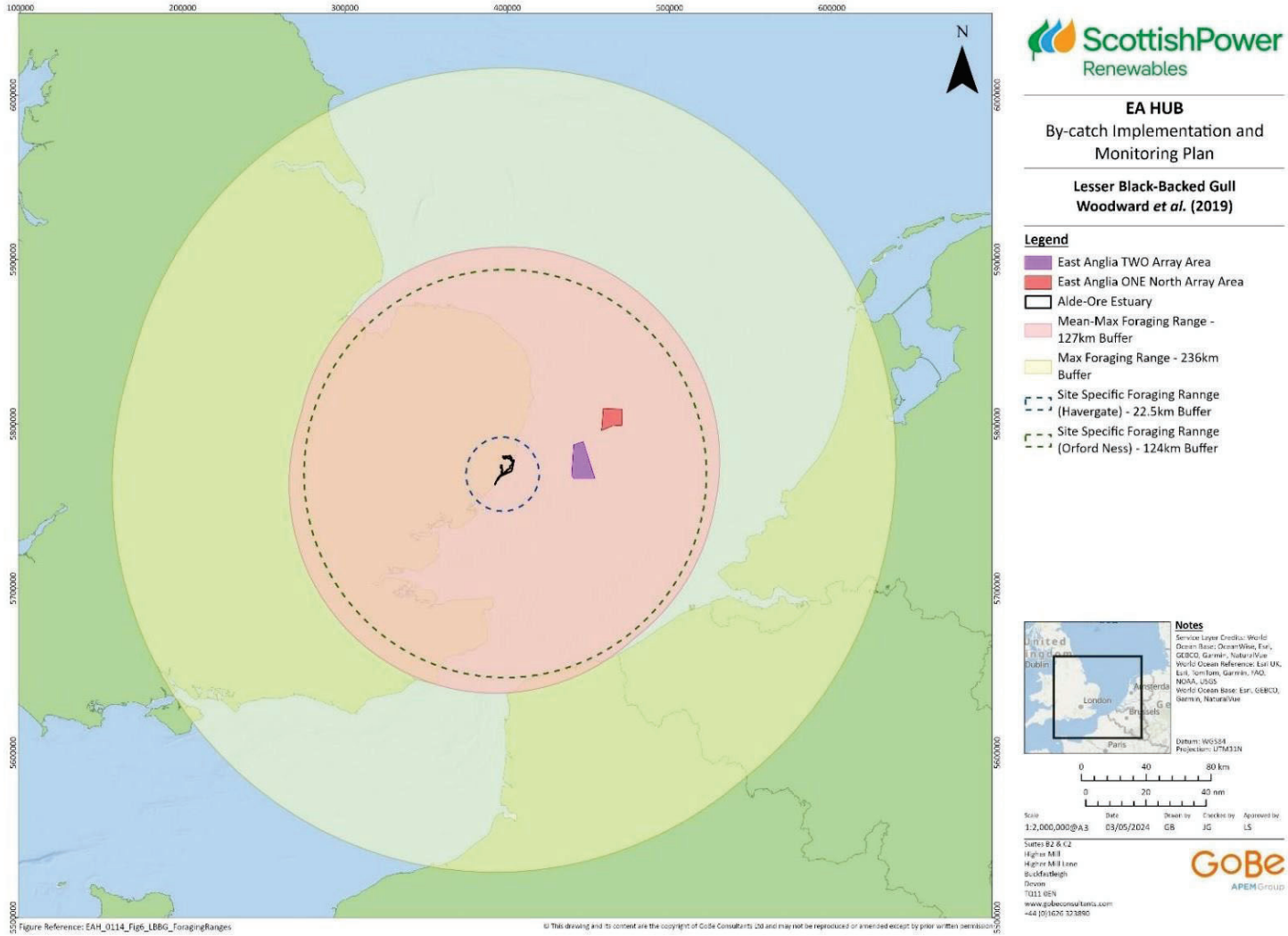


**Figure 7 Mean- maximum and maximum foraging ranges of lesser black-backed gull from the AOE SPA. Data source: Woodward *et al.* (2019).**

## 10.3 FISHING EFFORT

Gillnetting generally has a higher fishing effort compared to long-lining (Figure 8). The greatest gillnetting activity is observed in 32F1 and 33F1.This area sees concentrated effort along the coast extending out to 12 nautical miles (Figure 9). The highest longlining effort occurs in 33F1 and 33F2 (with some additional activity in 32F1) within the East Anglia TWO study area, with some overlap with the Export Cable Corridor (Figure 10).

The distribution of red-throated diver and fishing efforts (Figure 2, Figure 3, Figure 9, Figure 10) show that overlap is present across the East Anglia region. Given the fishing effort in the area, it is suggested to focus monitoring efforts primarily within ICES rectangles 32F1 and 33F1, with potential consideration for rectangle 34F1 as well.

Based on the evidence on distribution and foraging ecology presented in Section 10.2, it is considered likely that lesser black-backed gull from AOE SPA will interact with the fishing vessels in the East Anglia region, thus increasing the risk of being by-caught. The specific location chosen for the by-catch monitoring (Action 2) is less important in terms of this species as lesser black-backed gulls will likely associate with vessels across the East Anglia region.

Overall, the evidence outlined in the sections above suggest fishing activities by gillnetters and longliners overlap with the distribution of red-throated diver and lesser black-backed gulls, thereby highlighting the potential by-catch risks within this region. The information presented here will be discussed with the Ornithological By-Catch Reduction Technical Working Group in order to select the location(s) of the by-catch monitoring and trials.

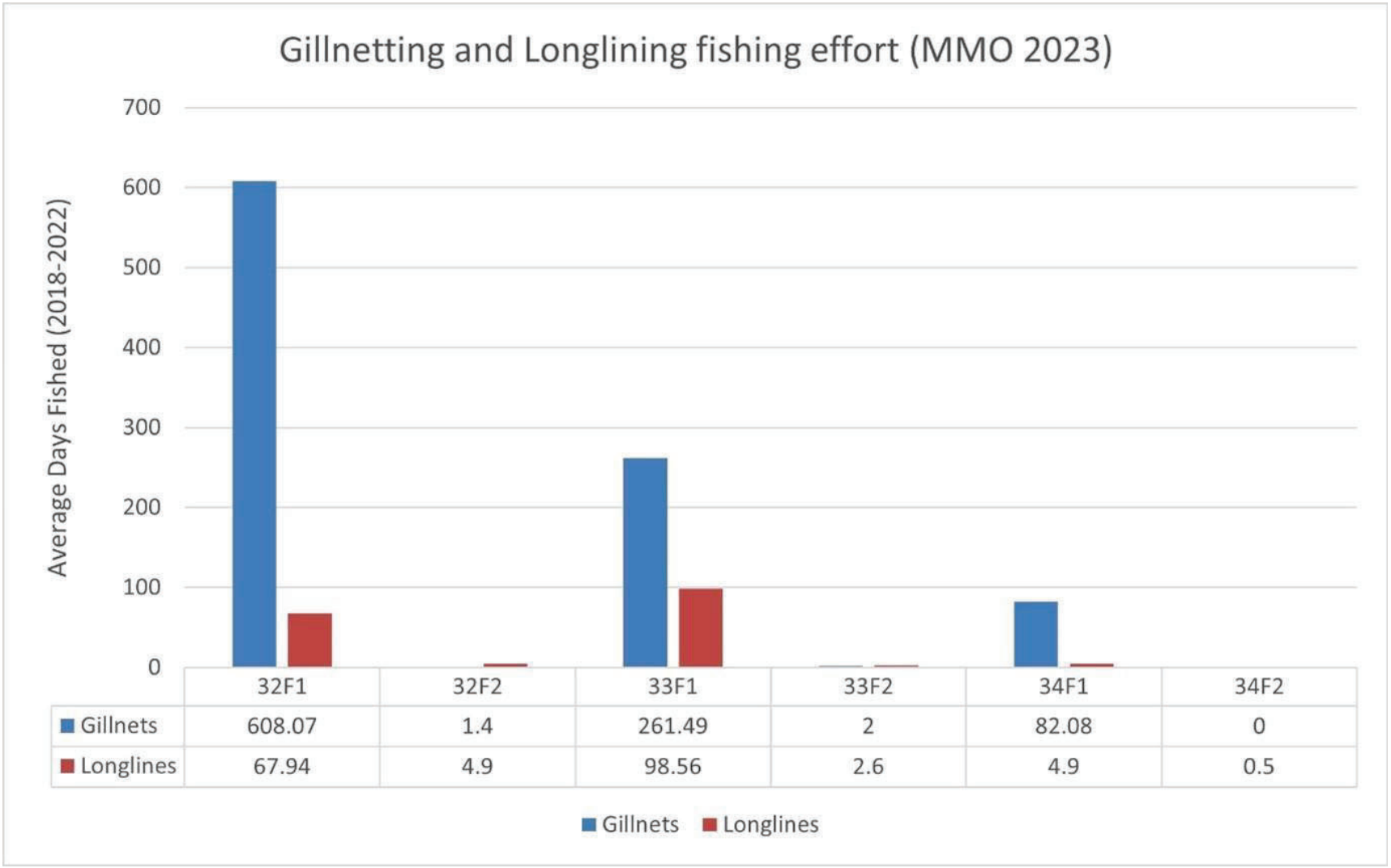


**Figure 8 Gillnetting and longlining fishing effort (average days fished between 2018 – 2022) across the ICES rectangles within the East Anglia region. Data source: MMO (2023).**

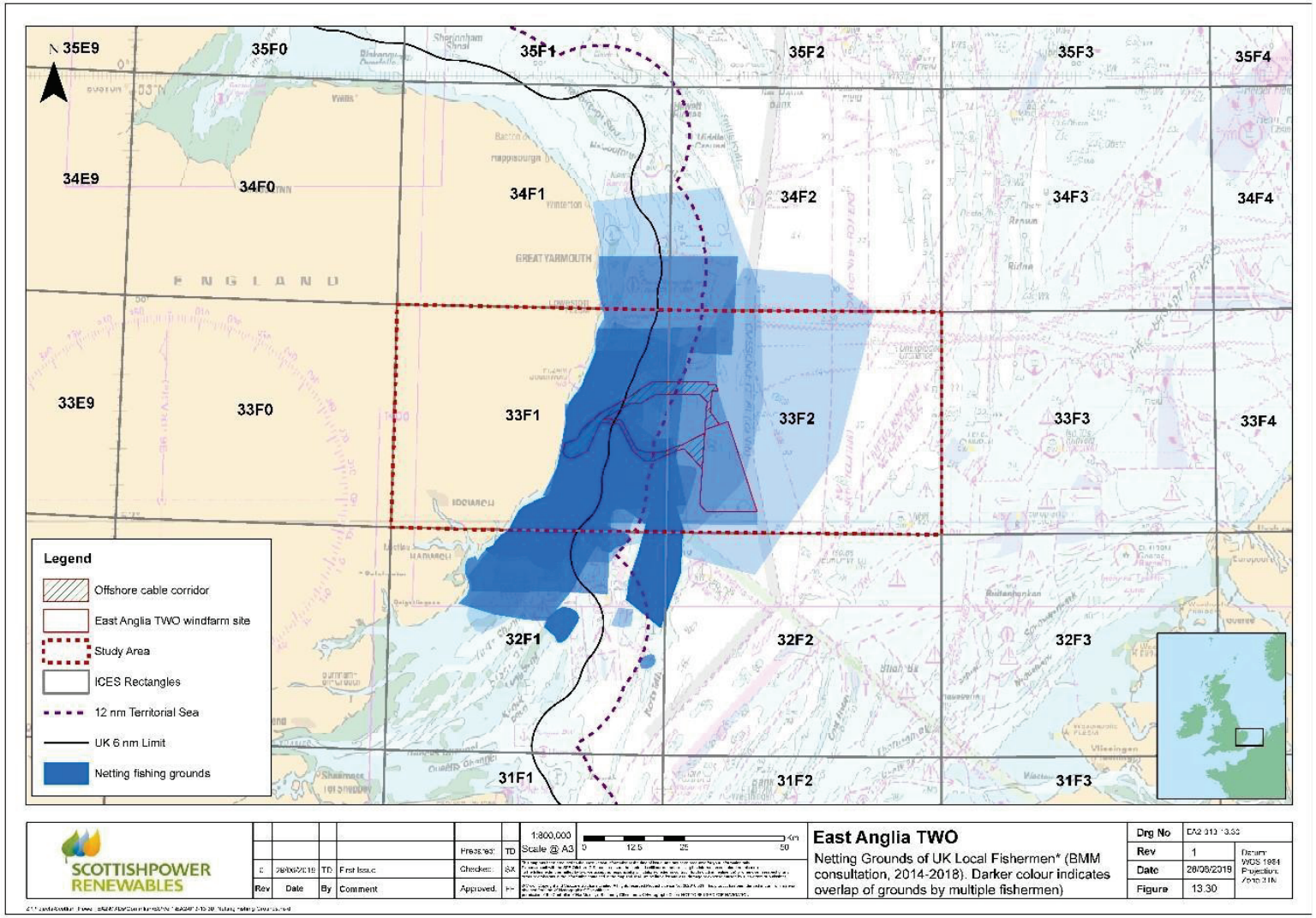


**Figure 9 Netting fishing grounds in and around the study area (ICES rectangles 33F1 and 33F2), darker colour indicates overlap of grounds by multiple fishers.**

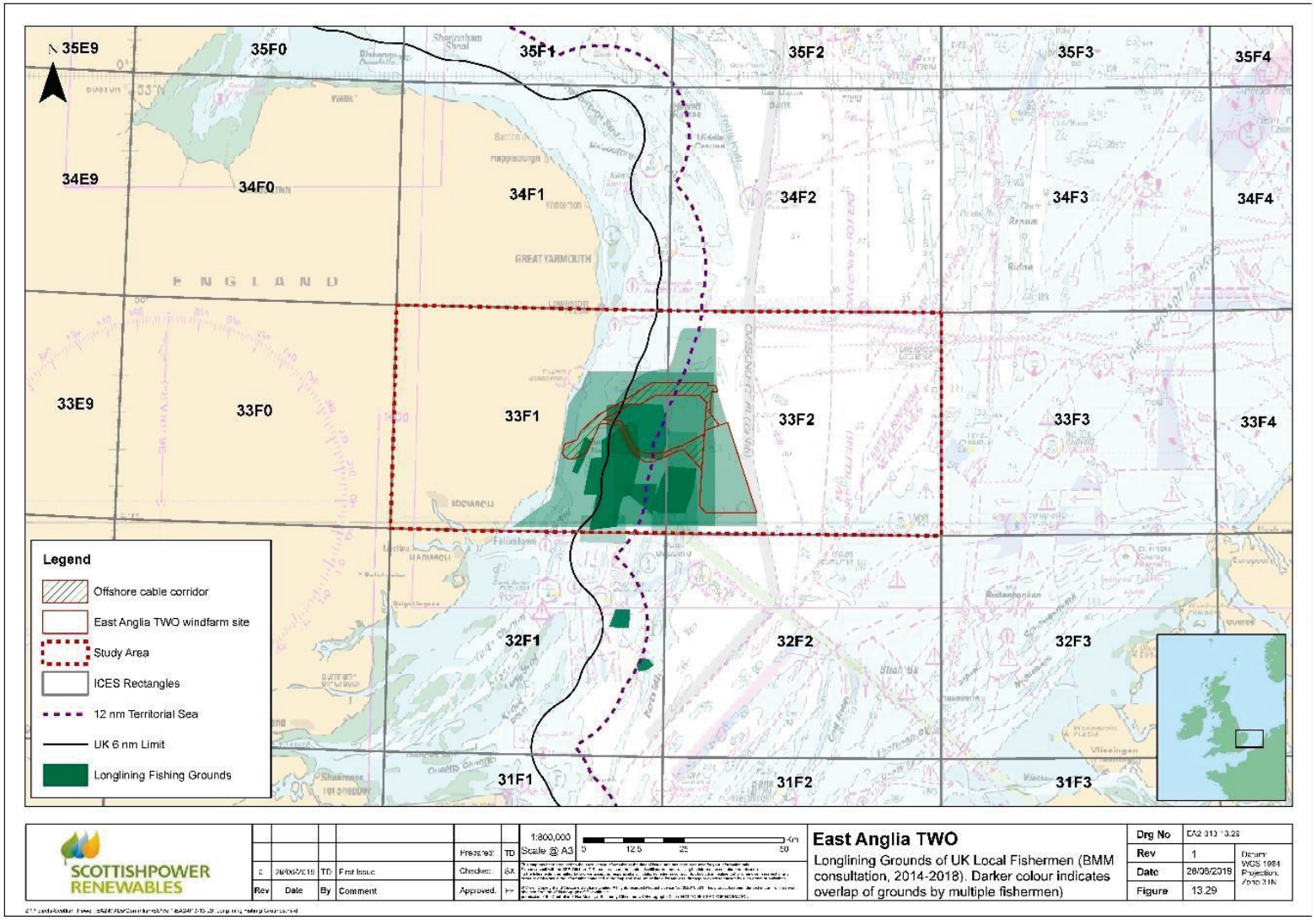


**Figure 10 Longlining fishing grounds in and around the study area (ICES rectangles 33F1 and 33F2), darker colour indicates overlap of grounds by multiple fishers.**

Paragraphs 6 and 7 of Part 2 of Schedule 18 of the DCOs establish the reporting requirements that will be adhered to by East Anglia ONE North and TWO in relation to the LBBG by-catch compensation measure. These are as follows:

> *"6. The undertaker shall notify the Secretary of State of completion of implementation of the measures set out in the LBBIMP.*
>
> *7. Results from the monitoring scheme must be submitted at least annually to the Secretary of State and the relevant statutory nature conservation body. This must include details of any finding that the measures have been ineffective in securing an increase in the number of adult lesser black-backed gulls available to recruit to the SPA and, in such case, proposals to address this. Any proposals to address effectiveness must thereafter be implemented by the undertaker as approved in writing by the Secretary of State in consultation with the relevant statutory nature conservation body."*

Paragraphs 6 and 7 of Part 3 of Schedule 18 of the DCOs establish the reporting requirements that will be adhered to by East Anglia ONE North and TWO in relation to the red-throated diver by-catch compensation measure. These are as follows:

> *"6. The undertaker shall notify the Secretary of State of completion of implementation of the measures set out in the RTDIMP. Once implemented, the measures should remain in place throughout the operational lifetime of the authorised development.*
>
> *7. Results from the monitoring scheme and aerial digital surveys must be submitted at least annually to the Secretary of State and the relevant statutory nature conservation body. This must include details of any finding that the measures have been ineffective in securing the maintenance of the SPA's conservation objectives and, in such case, proposals to address this. Any proposals to address effectiveness must thereafter be implemented by the undertaker as approved in writing by the Secretary of State in consultation with the relevant statutory nature conservation body."*

Note that the DCO conditions outlined above are in reference to the wider compensation measures for red- throated diver (vessel navigation management) and lesser black-backed gull (predator control). In order to align the ornithological by-catch reduction compensation programme implementation with the DCO conditions outlined above, reporting on i) progress on, and ii) findings from, the actions from the ornithological by-catch reduction compensation programme will also be completed on an annual basis through the submission of an annual report. Each annual report will detail the actions undertaken in the previous year and the outcomes of these actions. The annual report will also include the methodology and analysis relevant to the Action being reported, along with the processed data relevant for that Action. Discussions had and agreements made within the Ornithological By-Catch Reduction Technical Working Group will also be provided, particularly details and agreements on the implementation of subsequent actions.

## 11. POTENTIAL OUTCOMES

Below, a series of flowcharts are provided to give a clear overview of the outcomes expected to be delivered by the ornithological by-catch reduction compensation programme. These flowcharts also clarify the interdependencies between actions, and the decision process that is proposed to aid discussion on programme direction with the Ornithological By-Catch Reduction Technical Working Group. Figure 11 shows the decision process for determining the direction of Action 4 which will be exclusively based on analysis and discussion around the results from the year of the monitoring undertaken in Action 2. Figure 12 shows the decision process for determining the most beneficial use of

the fund to reduce seabird by-catch. Finally, Figure 13 provides a full flowchart of all the outcomes expected to be delivered by the ornithological by-catch reduction compensation programme, with full interdependencies between actions, outputs and outcomes shows.

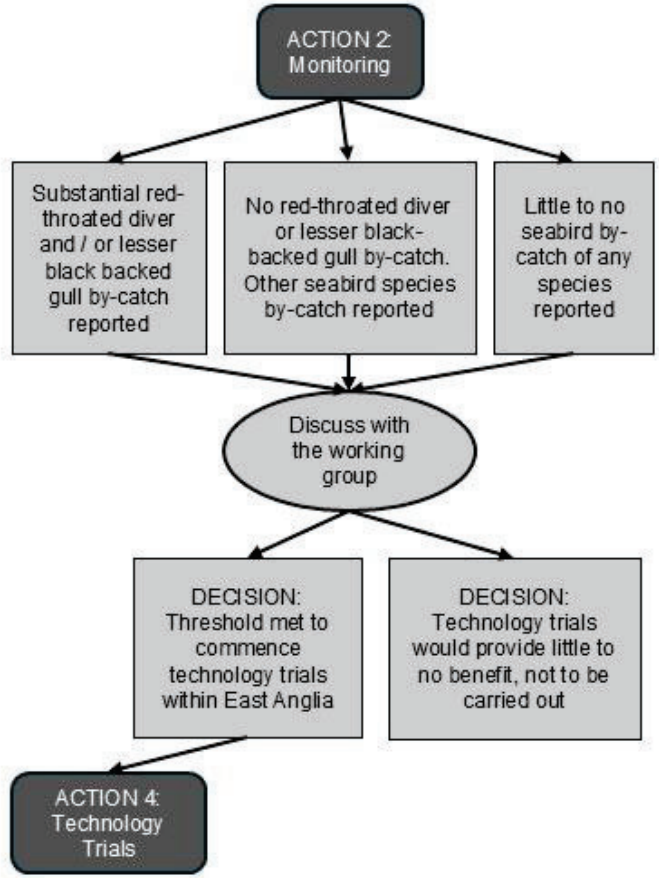


**Figure 11 Decision process for deciding whether the technology trials (Action 4) should go ahead, depending on the results from the monitoring in Action 2.**

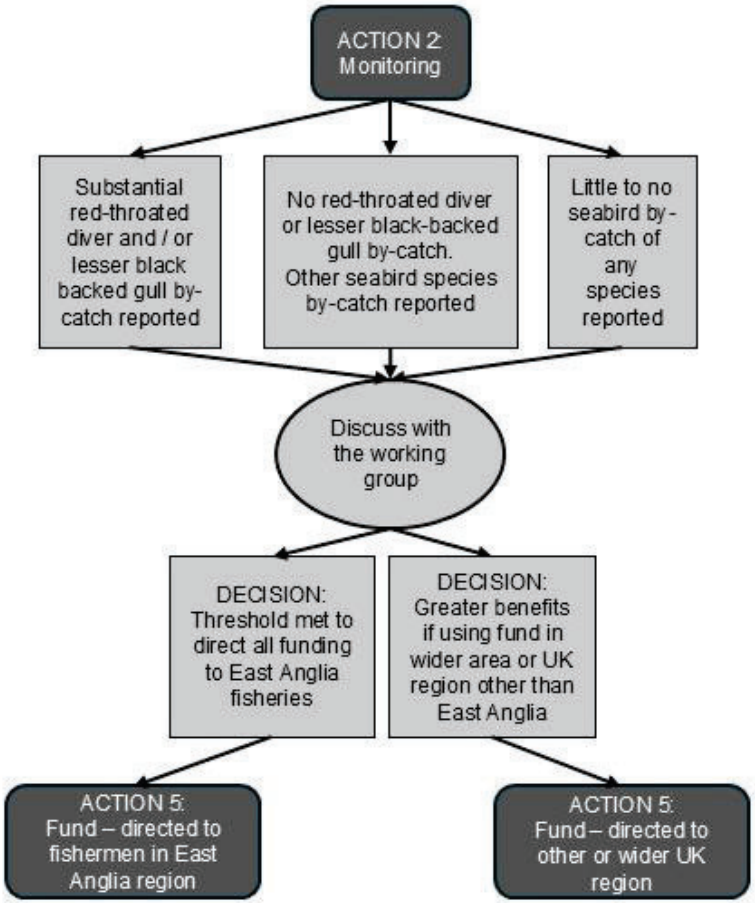


**Figure 12 Decision process for deciding whether the fund (Action 5) should be targeted to East Anglia fishermen, or to fisheries in a different or wider UK region.**

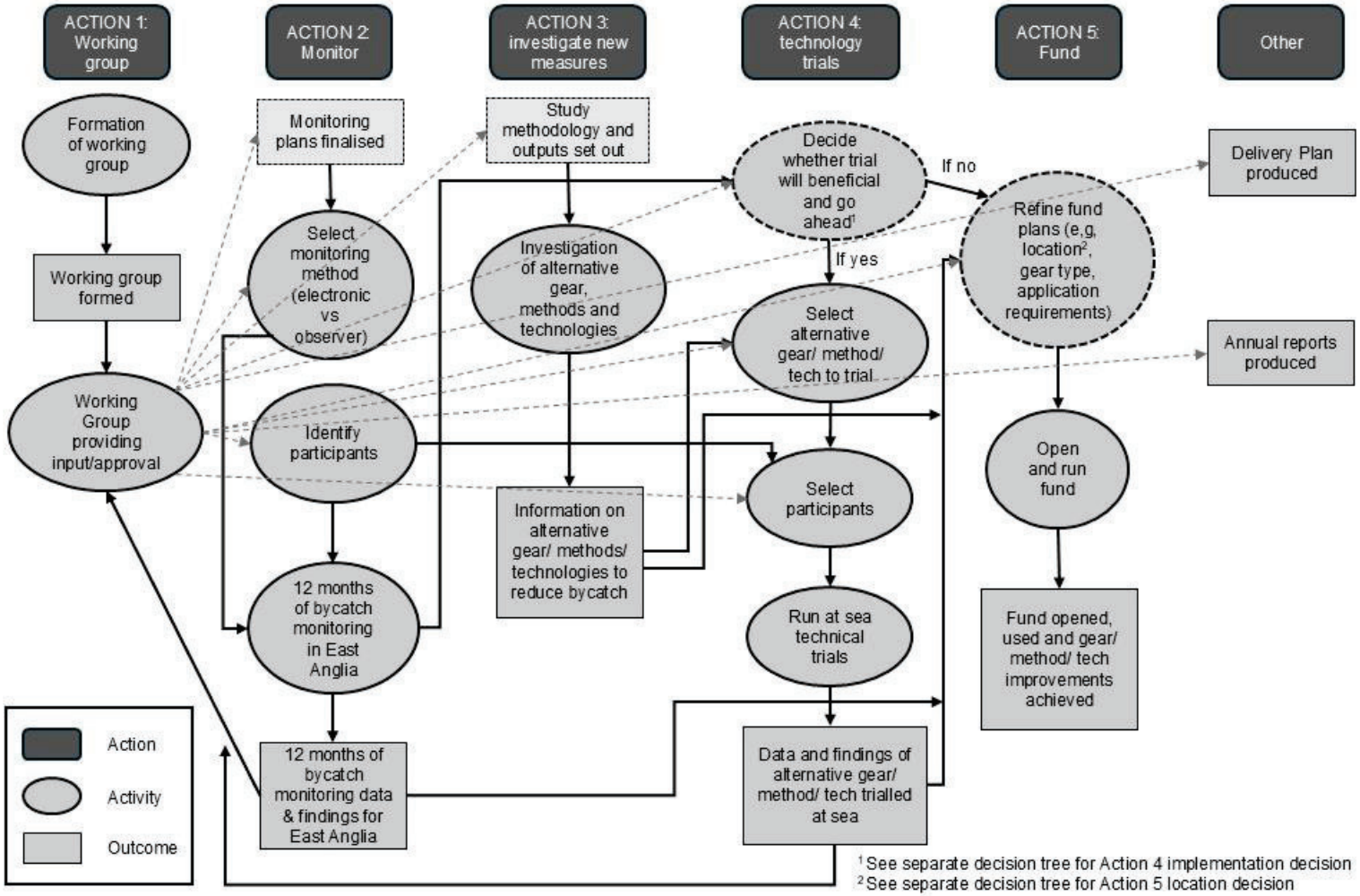


**Figure 13 Flowchart showing actions, activities and outcomes of the ornithological by-catch reduction compensation programme. Solid arrows show interdependencies between activities and outcomes. Dashed arrows show input from working group.**

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# ANNEX 1

This Annex provides agreements and comments on the By-Catch Reduction Delivery Plan. The Agreement Log is provided in Table A 1 and comments on the first draft of the Delivery Plan in Table A 2.

**Table A 1 Ornithological By-Catch Reduction Technical Working Group Agreement Log.**

| ID | Topic on which SPR seeks alignment | SPR Comments | Working Group Member Comments | Agreed/Disagreed/Actions |
|---|---|---|---|---|
| **Plan of Work for the Ornithology By-Catch Reduction Working Group** | | | | |
| **1. Terms of Reference** | | | | |
| PoW1.1 | That the Core members agree with the Terms of Reference | Discussed at 26/03/2024 Working Group #1 - Terms of Reference submitted to the core members on 29/02/2024 | 26/03/2024- Natural England noted resource constraints over the summer with a large number of projects reaching significant milestones, as such documents should be submitted 4 weeks before the relevant meeting (2 weeks at latest) and that any documents submitted after the 2-week mark will not be commented on during the meeting. Natural England also noted that anything requiring a written response from Natural Englandwill be provided 4 weeks following the meeting. | 26/03/2024- ACTION- Natural England and the MMO to provide feedback on the Plan of Works and Terms of Reference. |
| **2. Membership** | | | | |
| PoW2.1 | That the Core members agree with the Working Group advisory members | Discussed at 26/03/2024 Working Group #1- the advisory members that have been identified (RSPB, JNCC, Defra, Cefas, Eastern Inshore Fisheries and Conservation Authority) and it was queried whether there are there any others that the core think should members be added | 26/03/2024- MMO Queried if the project have spoken to the Marine Conservation team in the MMO as this team are currently looking at red-throated diver (and other species) in terms of protected areas and as such could potentially be brought into the Working group. | 26/03/2024- ACTION- MMO to provide SPR with contact information for the Marine Conservation team |
| | | | 26/03/2024- MMO Noted Cefas do not advice on ornithological matters so will only provide to advice regarding fisheries | 26/03/2024 - Agreed |
| **3. Engagement with Working Group** | | | | |

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| PoW3. 1 | Second Working Group meeting to be held in late June with all members. | Discussed at 26/03/2024 Working Group #1 | 26/03/2024 – MMO and Natural England content with the proposed timelines (noting constraints due to significant workload). | 26/03/2024- ACTION- Natural England and the MMO to provide availability during June (and August) |
| PoW3. 2 | Key tasks for the Working group (over the next 6 months) | Discussed at 26/03/2024 Working Group #1-The plan of works and terms of references are to be finalised in the next two weeks following comments from the Working group;-First draft of the By- catch Delivery Plan will be circulated with the Working Group in early June, to discuss in detail at the next Working Group meeting (late June);-Aim to address any comments on the Delivery Plan to be signed off by the Working group in July 2024 and then submitted to the Secretary of State (SoS) September 2024 | 26/03/2023-No further comments from MMO and Natural England. | 26/03/2023- Agreed |
| PoW3. 3 | Queried if the core members are aware of any seabird by-catch reduction groups in the East Anglia Region out- with those mentioned in the briefing note. | Discussed at 26/03/2024 Group #1 | 26/03/2023-No further comments from MMO and Natural England | 26/03/2023- Agreed |
| PoW3. 4 | Queried if the core members are aware of any further work that has been undertaken for seabird by-catch that could aid the development of this compensation measure. | Discussed at 26/03/2024 Working Group #1 | 26/03/2023- No further comments from MMO and Natural England | 26/03/2023- Agreed |

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| PoW3.5 | Agreement on project timelines | Discussed at 26/07/2024 Working Group #2 | N/A | 26/07/2024- ACTION- Natural England and MMO to provide written feedback on project timelines<br><br>26/7/2024- ACTION- Natural England and MMO to confirm that a third working Ornithology By-Catch Reduction Technical Working Group meeting is not required |
| **4. Lessons Learnt** | | | | |
| PoW4. 1 | Queried if the core members are aware of any key lesson learnt from other similar/ relevant projects that could be shared with the project team. | Discussed at 26/03/2024 Working Group #1 | 26/03/2024- Natural England- Noted a recent meeting with Defra and some of the team at Ørsted that are attempting to deliver their by- catch reduction measure. Stated it was suggested during the meeting to set up a separate technical working group which would pull in any projects attempting to deliver bycatch reduction as compensation for offshore wind farms. The group would meet quarterly to share lessons learned and any progress made.<br><br>26/03/2024- Noted similar projects have had issues with fishers engagement and transparency of data, which in turn can lead to issues calculating bycatch rates. Noted fishers which are less willing to engage are likely the fisheries with bycatch due to the potential consequences following the findings of the monitoring. Recommended SPR engage with fishers who are willing to be fully engaged and transparent. | 26/03/2023- Agreed |

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| **By-catch Delivery** | | | | |
| **1. DCO Conditions** | | | | |
| Imp1.1 | Confirmation on the DCO requirements. | Discussed at 26/03/2024 Working Group #1 | 28/03/2024 [Email]- Natural England queried whether the project is specifically looking to identify bycatch of red-throated diver and lesser black-backed gull in East Anglian coastal waters, or whether any bycatch of seabirds will be considered. | 03/04/2024- Clarification Based on the DCO, the requirements are focused on red-throated diver and lesser black-backed gull, however all seabird by-catch will be considered. |
| Imp1.2 | Confirmation of the interpretation of the DCO requirements for a four-year lead in time (LBBG). | Discussed at 26/07/2024 Working Group #2 | 26/07/2024 - Natural England agreed that the ecological justification regarding the DCO condition for predator fencing is to allow for chicks to turn into adults and noted that the by-catch measure that will be putting adults back into the population. Therefore, as per consultation on other by-catch measures, there is unlikely for the need for the four-year lead in time. However, also noted there may be legal issues with appending the by-catch Delivery Plan to the LBBG IMP.<br><br>19/08/2024 – Natural England provided written feedback reinstating the above. | 19/08/2024 - Agreed |
| **2. Scale and Location** | | | | |

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| Imp2.1 | - | - | 28/03/2024 [Email]- Natural England suggested widening the Search area. Natural England noted a previous investigation of red- throated diver bycatch in set and drift nets in the Outer Thames Estuary SPA which found no bycatch. Noted the report is old but stated the reasoning for no bycatch compared with other locations, e.g. the Baltic, is still valid (comparatively short soak times, not set overnight, vessels often in close attendance (birds are displaced by vessels and presumably do not come back quickly enough to interact with nets)). However, Natural England also noted ringing recoveries, and some observation clearly show red-throated diver are by-caught in some areas, and it can be at quite high levels, but potentially not the case in the English southern North Sea. | 03/04/2024- Comments noted and further information on by- catch in the East Anglia region is appreciated. This information will be relayed to the fisheries liaisons and the topic can be discussed in further detail at the By-catch Working Group #2 after the first draft of the Delivery Plan has been provided to the working group members. (see Imp2.4 below). |

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| Imp2.2 | - | - | 28/03/2024 [Email]- Natural England noted there is some long line fishing off East Anglia, although not much. Noted there does not appear to be much bycatch compared with the North West Scotland long line fishery (presumably linked to lower fulmar densities). Stated there is very little-known bycatch of lesser black-backed gull in UK waters and there were no confirmed records in Northridge *et al*. (2020). However, noted there can be issues in purse seine fisheries in Portugal. | 03/04/2024- Comments welcomed and noted. This information will be relayed to the fisheries liaisons and the topic can be discussed in further detail at the By-catch Working Group #2 after the first draft of the Delivery Plan has been provided to the working group members (see Imp2.4 below). |
| Imp2.3 | - | - | 28/03/2024 [Email]- Natural England queried whether the intention is to monitor vessels operating in East Anglian coastal waters, or from East Anglian ports/beaches. Especially with respect to long lining. | 03/04/06 - ACTION- SPR to confirm with fisheries liaisons which long- lining vessels are being targeted for monitoring.<br><br>03/04/06 - ACTION - SPR to confirm with fisheries liaisons which long-lining vessels are being targeted for monitoring. |
| Imp2.4 | Confirmation of monitoring in the East Anglia region. | Discussed at 26/07/2024 Working Group #2 | 26/07/2024 - No comments. | 26/07/2024- Agreed. |
| **By-catch Monitoring** | | | | |
| **1. Monitoring** | | | | |

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| Mon1.1 | - | - | 28/03/2024 [Email] - Natural England Suggested contribution to advancing detection and monitoring of seabird bycatch would be beneficial if the intention is to investigate bycatch rates of species that may be bycaught in very low numbers (if at all) in fisheries that have previously not been subject to much monitoring. Natural England advocated for the consideration of REM deployment as there may be opportunities to ground truth or test approaches/technology. | 03/04/2024- Comment noted. SPR will consider the use of electronic monitoring, and monitoring techniques will be discussed with the working group during the second working ground meeting (June 2024). The Consideration of electronic monitoring vs observers will be considered within the Delivery Plan (see Mon1.2 below). |
| Mon1.2 | Electronic monitoring vs onboard observers | Discussed at 26/07/2024 Working Group #2- After reviewing the pros and cons of each method and talking to fisheries it has been decided onboard observers will be used during monitoring. | 26/07/2024 - Natural England noted that there is no preference for EM or observers | 26/07/2024 - Agreed that either observers or EM are suitable for this Project |
| **2. Success Criteria** | | | | |
| SC1.1 | Agreement on the iterative decision tree approach as included in the Delivery Plan | Discussed at 26/07/2024 Working Group #2 | 26/07/2024 - In-principle agreement on the decision tree process (noting inclusion of all seabird species in working group discussion post monitoring). To await written feedback. | 26/07/2024- ACTION- Natural England and MMO to provide written agreement to the iterative decision tree approach as included in the Delivery Plan. |
| **By-catch Mitigation** | | | | |
| **1. Lessons Learnt** | | | | |

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| Mit1.1 | - | - | 28/03/2024 [Email]- Natural England noted the potential for unintended consequences, specifically for trailing mitigation technique. Stated risks around fishers gear switching or otherwise adapting their fishing to make themselves eligible for financial incentives should be considered as this could lead to more fishers engaged in high bycatch risk methods or areas, increased overall bycatch (and not just of seabirds). | 03/04/2024- Comment noted. To be discussed with the working group during the development of the mitigation trials. |

**Table A 2 SPR comments to consultation responses received by the MMO Marine Licensing team the MMO Strategic Renewables Unit (SRU) and Natural England.**

| Topic | Comment Raised | Formal Response |
|---|---|---|
| **MMO** | | |
| Methodology | The MMO to defer to Natural England ornithologists to advise on methodology matters relating to the Ornithological By-Catch Reduction Implementation and Monitoring Plan [Ornithological By-Catch Reduction Delivery Plan]. | SPR note the MMOs decision. Natural England comments and SPR responses are detailed below. |
| Definition of Thresholds | The MMO alongside SRU recommend that it would be useful to quantify and therefore better define the threshold of what constitutes 'very low by catch'. This should be qualified by number of vessels participants and time at sea etc. The MMO and SRU would expect UK bycatch programmes to inform expectations.<br><br>The MMO and SRU notes that the lack of certainty around the additional data collected appears unusual. The MMO and SRU would expect collecting location data of fishing activity at a greater resolution than ICES rectangles to be a necessary. Additionally, the MMO and SRU recommend that it would be useful to collect target species for each fishing trip, climatic conditions, vessel transit routes. | SPR note the uncertainty surrounding the use of 'little to no' by-catch, however based on a combination of the 'patchy' nature of by-catch (it is unlikely to be ubiquitous through space and time) and the variation of fishing effort annually (as discussed in the By-catch Working Group #2), SPR feel it is necessary to allow for flexibility in the terming of thresholds at this stage of the project. To provide further clarity on this issue going forward, SPR will discuss with Allen Kingston (manager of the UK Bycatch Monitoring Programme (UK BMP)) and Yann Rouxel (Bycatch Programme Manager for the Royal Society for the Protection of Birds (RSPB)) for further information on expectations of by-catch levels in comparison to other by-catch studies to help better define thresholds. SPR can confirm that the post monitoring analysis and report will be submitted to the core working group members (and additional members as deemed necessary) to enable in depth discussions on the level of by-catch in comparison to fishing effort. The decision trees have therefore been updated to reflect the inclusion of the By-catch Working Group in making decisions based on levels of by-catch observed (Figure 11, Figure 12 and Figure 13).<br><br>SPR note that prior to monitoring, the data available has been only ICES rectangles as the vessels the Projects are focused on are smaller vessels (<10m), which are not required to have AIS (Automatic Identification Systems). SPR can confirm that specific GPS locations will be used for by-catch monitoring.<br><br>SPR can confirm that detail regarding the additional data to be collected during Action 2 (by-catch monitoring) will be provided; SPR will forward the observer monitoring sheet which will detail the information that will be collected per trip.<br>SPR can confirm that the following data will be collected: |

| Topic | Comment Raised | Formal Response |
|---|---|---|
| | | • GPS for locations of hauls;<br>• Sea state;<br>• Wind direction / speed;<br>• Water depth;<br>• Soak time;<br>• Target species; and<br>• Relevant gear information (e.g. net/line length and mesh size).<br><br>SPR wish to discuss with the MMO their recommendation for including vessel transit routes as a variable in relation to seabird by-catch, as this is not a variable typically included in by-catch studies to SPRs knowledge. |
| The Fishers Fund | Assuming there is currently some knowledge about technology well suited to reducing by catch, the MMO and SRU ask if there is value in trialling a control and test groups within the monitoring year? This would effectively bring part of the £500k of fishing funding forward (to provide fishers with new replacement gear designed to reduce by catch) and might support comparative analysis through a field trial. The MMO and SRU acknowledge this would require a minimum threshold of vessel numbers to yield useful results.<br>The MMO and SRU recommend that Scottish Power Renewables (SPR) provide commitment to publishing the fund to fishers and making the route to apply clear and accessible for all. It should be made clear to fishers that participation in the monitoring year provides increased change to benefit from the fund. The MMO and SRU suggest collaboration with IFCA and the MMO to improve uptake. SPR should commit to reporting all applicants and the proportion of successful applicants to the working group to ensure transparency and build trust. The MMO and SRU recommend that SPR consider if a commitment to pay monies timely needs to be made, and if funds will be directed to the wider UK fishing activities should low by catch be evidence. The MMO and SRU request clarification in how and where this will be determined and if it will be by the working group. If funds are directed outside of East Anglia clarity on delivery of the funds will be necessary and important.<br><br>The MMO and SRU advice that the reporting commitment for by catch does not seem strong enough to meet what is set out in the DCO (Development Consent Order), 'Each annual report will detail the actions undertaken in the previous year and the outcomes of these actions'. Statutory Nature Conservation Bodies (SNCBs) will likely want processed data with methodology and | SPR note the MMOs request to bring forward the trialling of technology into the Year 1 of monitoring, however, the discussions on identifying a suitable gear change (Action 3) has not yet been undertaken and cannot be undertaken until there is more robust data available on which gear types are currently being used in the region by the target vessels and whether and to what extend there are seabirds being caught. The baseline data gathered during the first year of monitoring will be crucial to direct the Actions 3, 4 and 5. As per the Without Prejudice Compensation Measures document, Action 3 is to be undertaken alongside Action 2 (monitoring), commencing in Q1 2025. SPR note that there is not currently known by-catch mitigation for some gear types (e.g. gillnets), and identifying a suitable technique to trial will be dependent on gear and bird species of interest. SPR will therefore continue to peruse the delivery of compensation as per the Without Prejudice Compensation Measures to allow for in-depth workshops with relevant stakeholders to identify the most suitable technique to trial.<br><br>SPRs can confirm that the fisheries liaisons (Brown and May Marine) will discuss with fishers that participation in the monitoring year will increase fund application success.<br><br>As discussed within the Without Prejudice Compensation Measures, SPR can confirm that the £500,000 fund will be made available to fishers. Ideally, this fund will be available for fishers in East Anglia with priority given to those who participated in the year 1 monitoring project, however, dependent on the results of the monitoring and the trial, the funding may be made |

| Topic | Comment Raised | Formal Response |
|---|---|---|
| | analysis. At present no commitment or intent on this is made beyond reporting actions and outcomes. | available to fishermen registered in the UK who fish beyond the East Anglia region. The decision as to whom the fund will be made available to will be discussed with the core members of the By-catch Working Group as shown in Figure 12 and Figure 13. Delivery of the fund will be clearly discussed within the annual reporting of the compensation measure. SPR note the MMO's suggestion to collaborate with Easter IFCA and the MMO to improve uptake of the fund. This option will be open for discussion with core members during discussions around fund allocation.<br><br>SPR note the queries raised by the MMO regarding reporting commitments. SPR can confirm that the annual report will include the methodology and analysis, along with the processed data relevant for each action (noting fishers/vessels will be anonymised), which will be sufficient to discharge the DCO condition. |
| Comments of Figures | With regard to Figure 11, quantifying and qualifying for variable vessels and days at sea, the MMO and SRU request that use of 'substantial and 'little to no' by-catch be discussed with the working group ahead of no trials going ahead. The MMO and SRU advise that these thresholds must be defined, and this decision should be taken collaboratively to ensure it is appropriately informed.<br><br>Furthermore, Figure 11, and therefore the text of the Delivery Plan where relevant, should build in review within year 1 monitoring to support adaptive management of trials. The MMO and SRU request that this is informed by working group to promote technical trials going ahead. The MMO and SRU recommend this include scope for an adaptive approach lowers risk of little to no by-catch and so helps ensure the value from this work.<br><br>The MMO and SRU recommend that Figure 13 include adaptive management under Action 2 and monitor to improve resilience of output delivery from the subsequent actions. | SPR note that Figure 11, Figure 12 and Figure 13 were discussed with the MMO and Natural England at the By-catch Working Group #2 on 26/07/2024. SPR note the uncertainty surrounding the use of 'substantial' and 'little to no' by-catch, however based on a combination of the 'patchy' nature of by-catch (it is unlikely to be ubiquitous through space and time) and the variation of fishing effort annually (as discussed in the By-catch Working Group #2) SPR wish to allow for flexibility in the determination as to whether Action 4 is required (whether for lesser black-backed gull, red-throated diver, or other seabird species). SPR can confirm that this decision will be discussed with the By-catch Working Group to agree the levels of 'substantial' and 'little to no' by-catch after the first year of monitoring and ensure the most value from the project in reducing seabird by-catch is achieved whether that be in East Anglia or elsewhere. The decision trees have therefore been updated in Version 2 of the Delivery Plan to ensure they reflect SPR's intention to use the By-catch Working Group to direct discussions and decisions based on the results of the monitoring work.<br><br>Prior to discussing with the By-catch Working Group, SPR can confirm that the monitoring data, analysis and report will be submitted to the core working group members (and additional members as deemed necessary) to enable in depth discussions regarding whether Action 4 is of |

| Topic | Comment Raised | Formal Response |
|---|---|---|
| | | value to proceed in the East Anglia region (i.e. if benefit will be provided from undertaking the mitigation trials in the East Anglia region). SPR wish to deliver as much benefit as possible from this workstream. Adaptive management is built into this secondary compensation measure through Action 5 (the fund). If monitoring results and discussions identifies a lack of value to undertaking further seabird by-catch reduction work in the East Anglia region, the fund will be opened to other location where greater benefit can be achieved. This will be discussed with the By-catch Working Group. Figure 13 has therefore been updated to ensure SPR's intention to discuss results of monitoring with the By-catch Working Group to direct decisions regarding technology trials or the fund is clear (see Figure 13). |
| Clarification of Condition within the Deemed Marine Licence | Furthermore, the MMO wish to note that within the East Anglia 1 North and 2 ornithological by-catch reduction technical working group meeting held on 26th July 2024, the MMO requested confirmation from Scottish Renewables regarding whether the DCO condition Schedule 18, Part 2, Paragraph 3 and 5 is also within the Deemed Marine Licence (DML) or within the DCO only. If the applicant could confirm the above, that would be greatly appreciated. | SPR have since confirmed with the MMO that that the DCO condition Schedule 18, Part 2, Paragraph 3 and 5 is not within the DML (email dated 09/08/2024). |
| **Natural England** | | |
| Meeting Minutes (26/07/2024) | Natural England is satisfied with the meeting minutes as written. | SPR welcome Natural England's agreement on the minutes. |
| DCO condition Schedule 18, Part 2, Paragraph 3 and 5 | Natural England was requested by SPR to provide written feedback on the DCO conditions. However, we note that it is for the Secretary of State (SoS) to interpret and enforce the meaning of the wording stated within the DCO and thus our advice below focuses on the ecological aspects of compensation as they relate to the conditions and defer the SoS as the enforcing body with regard to the meaning of the DCO conditions. Therefore, we provide the following comments on the ecology behind the conditions requested during the application process.<br><br>Compensatory measures that seek to provide breeding habitat through increased provision or protection (e.g., ANS or fenced areas) generate benefits by an increased provision of chicks into the population. Thus, the measure is only compensating directly for estimated breeding adult mortality impacts once those chicks have become adults and have recruited into the breeding population.<br><br>This has led to DCO requirements for species-specific lead in times for such measures that | SPR welcome the feedback on the DCO condition Schedule 18, Part 2, Paragraph 3 and 5 in relation to the lesser black-backed gull compensation four-year lead-in times. SPR agree that the four-year lead-in period is relevant to those compensatory measures that seek to provide breeding habitat and therefore require a recruitment lead in time whereas by-catch offers an immediate removal of loss of an individual. |

| Topic | Comment Raised | Formal Response |
|---|---|---|
| | consider the age of first breeding. E.g., for lesser black-backed gull a 4-year lead-in time would be required. This aims to ensure that legitimate compensation is being delivered at the point of impact (OWF operation). Similarly, age class survival rates must be considered as some proportion of the chicks produced as a result of the compensatory measure will not survive to recruit into the breeding population.<br><br>Reducing by-catch mortality seeks to deliver compensatory benefits immediately through retaining birds in the population that may otherwise have been lost. The same requirement for a lead-in time does not apply as some proportion of the birds 'saved' are adults. In this case, the benefit is felt directly with no time-lag as those birds are retained within the breeding population. However, it is important to consider that not all mortality reduction will apply to adults, and thus, some benefits will be subject to a time lag. Furthermore, the survival rates of sub-adult birds must be considered, as not all will go on to recruit into the breeding population. Nonetheless, Natural England considers that a bycatch reduction measure could provide instant benefits. While implementation as soon as possible is clearly preferable, a long lead in time prior to OWF operation is not necessarily required. Consideration of the accrual of benefits to the breeding population could be modelled against any likely mortality debt accumulation to ensure the scale of the measure is sufficient. Alternatively, the measure could be scaled according to adult mortality reduction, ensuring the immediate delivery of like for like compensation.<br><br>The proportion of birds in relevant age classes could be estimated using modelled stable age structures, although it is possible that bycatch risk is variable by age. Greater certainty could be gained by aging bycaught birds in any monitoring or field trials and reviewing relevant literature.<br><br>If proven successful we consider that compensation would arise as an immediate and direct population effect, i.e., birds are retained in the population, thus compensating on a like for like basis with due consideration to the age profile of birds that are not bycaught as a result of the intervention. | |
| Approach to Monitoring | Natural England was requested by SPR to provide written feedback on the approach to monitoring. We provide the following comments.<br><br>The approach to monitoring is currently very high level. We advise that detailed monitoring plans are submitted for review, and independent expert advice is sought to ensure the plans are robust. Oversights or omissions in monitoring could lead to | SPR are currently progressing more in-depth plans regarding monitoring. SPR understand that the correct data needs to be collected to allow for appropriate analysis and will therefore discuss with key advisory members of the by-catch reduction working group (Allen Kingston (manager of the UK BMP) and Yann Rouxel (Bycatch Programme Manager and the RSPB)) to ensure monitoring data gathered is inclusive of that |

| Topic | Comment Raised | Formal Response |
|---|---|---|
| | deficiencies that preclude robust data analysis. Our only outstanding concern at this point is the restriction of monitoring to cover a single year. Inter-annual variation may be pronounced (in relation to several key factors, e.g., environmental conditions, bird densities/distributions, fishing activity). Multi-year monitoring will be required to generate a full understanding of any seabird bycatch. This is especially important if the benefits of compensatory measures are to be estimated/extrapolated from any data. | required for robust data analysis and in line with wider by-catch monitoring work. Following consultation with key members, the monitoring plan and observer data sheets will be circulated to the Working Group for review and comment.<br><br>SPR note Natural England's concern regarding undertaking one year of monitoring, however SPR note that if deemed suitable, trialling mitigation will provide additional information of seabird by-catch in the region, as committed to within the Without Prejudice Compensation Measures. This data would also be used (if required) to provide information on potential benefits of the secondary compensation measure. |
| Iterative Decision Tree | Natural England is in agreement with the iterative decision tree approach as detailed in the Delivery Plan. | SPR welcome Natural England's agreement on the iterative decision trees presented in Figure 11, Figure 12 and Figure 13 of the Delivery Plan. |

# 12. APPENDIX 3 – PROJECT LEGAL AGREEMENTS

SHEPHERD+WEDDERBURN

CONSENT AGREEMENT

between

East Anglia ONE NORTH Limited

and

East Anglia ONE Limited

Relating to: the East Anglia ONE North Offshore Windfarm Development Consent Order

Shepherd and Wedderburn LLP
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**CONSENT AGREEMENT** **Dated** 9 MARCH **2022**

between

**EAST ANGLIA ONE NORTH LIMITED** (Company Registration Number 11121800) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA1N**" which expression shall include its successors in title and assigns); and

**EAST ANGLIA ONE LIMITED** (Company Registration Number 07366753) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA1**" which expression shall include its successors in title and assigns).

**BACKGROUND**

(A) EA1N wishes to carry out the East Anglia ONE North Offshore Windfarm (the **"EA1N Project"**) and has made an application on 25 October 2019 for a Development Consent Order to authorise the works for the EA1N Project (the **"EA1N Order"**).

(B) EA1 wishes to continue to operate and maintain the East Anglia ONE Windfarm (the "**EA1 Project**") which was granted a Development Consent Order on 16 June 2014. The EA1 Project commenced construction in 2017 and became fully operational in July 2020.

(C) EA1N maintains that there will be no adverse effect on the integrity ("**AEoI**") of the Outer Thames Estuary Special Protection Area ("**OTE SPA**") as a result of the EA1N Project alone or in combination. However, without prejudice to EA1N's position, EA1N has proposed in-principle compensatory measures that could be progressed should the Secretary of State conclude an AEoI on the red throated diver ("**RTD**") feature of the OTE SPA. The in-principle compensatory measures proposed requires crew transfer vessel traffic associated with the operation, maintenance and decommissioning of the generation assets forming part of the EA1 Project to avoid the OTE SPA (excluding vessels accessing ports and harbours where any part of that port or harbour or its approaches are located within the OTE SPA).

**OPERATIVE PROVISIONS**

## 1. Definitions and interpretation

1.1 In this Deed the following expressions shall have the following meanings and references to clauses are references to the clauses of this Deed:

| | |
|---|---|
| **"EA1 Compensation Measures"** | has the meaning given in clause 3.1; |
| **"EA1N Offshore Works"** | means Work Nos. 1 to 6 as described in Schedule 1 of the EA1N Order; |
| **"EA1N Order"** | means the East Anglia ONE North Offshore Windfarm Development Consent Order as it is made by the Secretary of State; |
| **"EA1 Order"** | means the East Anglia ONE Offshore Wind Farm Order 2014, as amended; |
| **"Northern Component of the OTE SPA"** | means the part of the OTE SPA outlined and hatched in blue and shaded green shown on Figure 1 in Appendix 1; |
| **"OTE SPA Buffer"** | means the area of sea within 2km of the boundary of the OTE SPA; |

| | |
|---|---|
| **"Relevant EA1 Works"** | means Work No. 1(a), Work No. 1(c) and the network of subsea cables between the wind turbine generators and the HVAC offshore collector stations comprised within Work No. 1(d), all as described in Schedule 1 of the EA1 Order; |
| **"RTD Implementation and Monitoring Plan"** | means the red-throated diver implementation and monitoring plan or an equivalent plan required to be submitted to the Secretary of State for approval in accordance with the EA1N Order and which must include details of the compensation measures for RTD, including an implementation timetable for delivery of the measures; |
| **"Secretary of State"** | means the Secretary of State for Business, Energy and Industrial Strategy; |
| **"Undertaker"** | means the undertaker or undertakers as defined in the EA1N Order or the EA1 Order, as the case may be, and appointed for time to time; |
| **"Vessel"** | means crew transfer vessel. |

1.2 The headings in this Deed are for convenience only and shall not be taken into account in the construction and interpretation of this Deed.

1.3 References in this Deed to clauses are (unless otherwise expressly provided) references to relevant clauses contained in this Deed.

## 2. Conditionality

2.1 Save in respect of clause 14, and subject to clause 2.2, this Deed is conditional upon:

2.1.1 the making of the EA1N Order by the Secretary of State; and

2.1.2 an obligation being included in the EA1N Order for EA1N to provide compensatory measures in respect of the RTD feature of the OTE SPA.

2.2 Clauses 3.1.1, 3.1.2, 3.1.4 and 3.1.5 are conditional upon EA1 vessel re-routing being included as a compensatory measure in the approved RTD Implementation and Monitoring Plan and take effect in accordance with the timescales set out in the approved RTD Implementation and Monitoring Plan.

2.3 EA1 shall no longer be required to carry out its duties and obligations under this Deed and shall have no further liability to EA1N in respect thereof upon the date determined by the Secretary of State as being the date on which compensatory measures are no longer required or, where no such date is determined, upon the decommissioning of the EA1N Offshore Works.

## 3. Covenants of EA1

3.1 EA1 HEREBY UNDERTAKES AND AGREES:

3.1.1 that, subject to clause 3.2, EA1 will procure that all Vessel traffic engaged in the operation, maintenance and decommissioning of the Relevant EA1 Works will avoid the Northern Component of the OTE SPA from 1 November to 31 March inclusive;

3.1.2 that, subject to clauses 3.2, 3.3 and 3.4, EA1 will procure that all Vessel traffic engaged in the operation, maintenance and decommissioning of the Relevant EA1 Works will avoid the OTE SPA and the OTE SPA Buffer from 1 November to 31 March inclusive;

3.1.3 that EA1 will participate in the RTD compensation steering group if invited to attend;

3.1.4 that EA1 will comply with the measures set out in the RTD Implementation and Monitoring Plan to the extent that they relate to the Relevant EA1 Works and only in so far as they require EA1 to take any action set out in clauses 3.1.1 and 3.1.2; and

3.1.5 that EA1 will provide monthly reports to EA1N to demonstrate compliance with clauses 3.1.1 and 3.1.2,

together, the "**EA1 Compensation Measures**".

3.2 Clauses 3.1.1 and 3.1.2 do not apply in the case of an emergency or where there are health and safety grounds (including, but not limited to, due to inclement weather) requiring (in the opinion of any applicable Vessel operator) a direct route to be taken through the OTE SPA or the OTE SPA Buffer;

3.3 Clause 3.1.2 does not apply to Vessel traffic accessing ports and harbours within the OTE SPA or OTE SPA Buffer where any part of that port or harbour or its approaches are located within the OTE SPA and/or OTE SPA Buffer.

3.4 The requirement to avoid the OTE SPA Buffer within clause 3.1.2 does not apply:

3.4.1 to Vessels travelling in the opposite direction of another vessel in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 6km or less; and

3.4.2 to all other Vessels in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 4.2km or less,

but in such areas Vessel traffic will traverse between the Northern Component of the OTE SPA and the remainder of the OTE SPA as close to the mid point between the two components of the OTE SPA as is reasonably practicable whilst allowing for an appropriate separation distance between passing vessels in the case of 3.4.1.

## 4. Covenants of EA1N

4.1 EA1N HEREBY UNDERTAKES AND AGREES:

4.1.1 to invite EA1 to participate in the RTD compensation steering group and, to the extent it is able to do so, to ensure that EA1 is not prevented from attending by any other person;

4.1.2 subject to clause 4.2 below, to obtain approval from EA1 to the measures contained within the RTD Implementation and Monitoring Plan to the extent that they relate to the provisions set out in clause 3.1.1 and 3.1.2, prior to the submission of the RTD Implementation Plan to the Secretary of State or any other governmental authority; and

4.1.3 to provide EA1 with a copy of the approved RTD Implementation and Monitoring Plan within two working days of notification of approval of the RTD Implementation and Monitoring Plan.

4.2 Approval under clause 4.1.2 must not be unreasonably withheld or delayed by EA1 if the measures contained within the RTD Implementation and Monitoring Plan which impact or affect EA1 are limited to the actions and undertakings contemplated in clauses 3.1.1 and 3.1.2.

## 5. Good faith and co-operation

5.1 The parties to this Deed shall act towards each other at all times in good faith and shall co-operate and fully consult with each other regarding their respective obligations under the terms of this Deed.

## 6. Partial invalidity

6.1 If any provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable it shall not affect the validity, legality or enforceability of the remainder of this Deed.

6.2 If any part of a provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable but the rest of such provision would remain valid lawful or enforceable if part of the wording were deleted, the provision shall be deemed modified to the minimum extent necessary to make it valid, legal and enforceable but without affecting the meaning or legality validity or enforceability of any other provision of this Deed.

## 7. Entire Agreement

7.1 This Deed constitutes the entire agreement between the parties and supersedes and extinguishes all previous and contemporaneous agreements, promises, assurances and understandings between them, whether written or oral, relating to its subject matter.

7.2 For the avoidance of doubt, the agreement between (1) East Anglia ONE North Limited and (2) East Anglia ONE Limited dated 31 January 2022 is superseded and ceases to have effect upon the completion of this Deed.

## 8. Variation of Agreement

8.1 No amendment or modification of this Deed shall be valid or binding on the parties to this Deed unless the same:

8.1.1 is made in writing;

8.1.2 refers expressly to this Deed; and

8.1.3 is executed on behalf of EA1N and EA1.

## 9. Counterparts

9.1 This Deed may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original, but all the counterparts shall together constitute the one agreement.

9.2 No counterpart shall be effective until each party has executed and delivered at least one counterpart.

## 10. Third Party Rights

10.1 Only the parties to the agreement may enforce the terms of this Deed and no third party may enforce such a term under the Contracts (Rights of Third Parties) Act 1999 provided always that any successors to the business of EA1N shall be entitled to the benefit of this Deed.

## 11. Transfer of Powers

11.1 In the event that:

11.1.1 any person other than EA1 is defined as the "Undertaker" for the purposes of the EA1 Order in respect of the Relevant EA1 Works, and/or

11.1.2 the powers of the "Undertaker" under the EA1 Order in respect of the Relevant EA1 Works are transferred or leased to any other person; and

11.1.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA1 will without delay require the Transferee to enter into a deed of covenant in favour of EA1N that the Transferee shall observe and perform such of the obligations of and restrictions on EA1 under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.2 EA1 shall remain liable to EA1N under this Deed until EA1 has complied with clause 11.1.

11.3 Upon compliance with clause 11.1, EA1 shall no longer owe any duty or obligation to EA1N in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA1N shall release and discharge EA1 from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

11.4 In the event that:

11.4.1 any person other than EA1N is defined as the "Undertaker" for the purposes of the EA1N Order in respect of the EA1N Offshore Works, and/or

11.4.2 the powers of the "Undertaker" under the EA1N Order in respect of the EA1N Offshore Works are transferred or leased to any other person; and

11.4.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA1N will without delay require the Transferee to enter into a deed of covenant in favour of EA1 that the Transferee shall observe and perform such of the obligations of and restrictions on EA1N under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.5 EA1N shall remain liable to EA1 under this Deed until EA1N has complied with clause 11.4.

11.6 Upon compliance with clause 11.4, EA1N shall no longer owe any duty or obligation to EA1 in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA1 shall release and discharge EA1N from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

## 12. Notices

12.1 Any notice given under or in relation to this Deed shall be in writing and shall refer to this Deed and shall be deemed to be sufficiently served if addressed to EA1N or EA1, as the case may be, and sent by recorded delivery or registered post to the address of the Parties given in this Deed or to such other address as they may from time to time designate by written notice to the other.

12.2 Any notice sent in accordance with clause 12.1 shall be deemed, in the absence of evidence of earlier receipt, to have been delivered two days after costing or despatch, exclusive of the day of posting.

## 13. Governing Law and Jurisdiction

13.1 This Deed and any non-contractual obligations arising in connection with it (and, unless provided otherwise, any document entered into in connection with it) are governed by and construed in accordance with English law.

13.2 The English courts have exclusive jurisdiction to determine any dispute arising in connection with this Deed (and, unless provided otherwise, any document entered into in connection with it), including disputes relating to any non-contractual obligations.

## 14. Confidentiality

14.1 EA1N and EA1 Energy agree to keep confidential and not disclose to any third party the content of this Deed.

14.2 Either party may disclose the fact and details of this Deed, or its terms:

14.2.1 pursuant to an order of the Court, or by compulsion of law or the rules of any competent regulator;

14.2.2 to any of their auditors, professional legal advisers or insurers;

14.2.3 to:

(i) any bona fide potential purchaser of shares in (or the assets of) EA1N or EA1 and its external professional consultants and advisers;

(ii) any bona fide bank or financial institution (and its external professional consultants and advisers) from whom EA1N or EA1 is seeking or obtaining finance or financial advice

provided that in the case of disclosure under clause 14.2.3(i) and 14.2.3(ii) such third party is either bound by a professional duty of confidence or has first executed a confidentiality agreement containing confidentiality provisions no less onerous than those set out herein;

14.2.4 with the prior written consent of the other Party; or

14.2.5 to respond to a question or request for information from the Secretary of State.

14.3 In the event that any party considers that it is required by law or by the rules of any competent regulator to disclose any terms of this Deed such party will provide the other party with such prompt written notice of such requirement as is reasonably practicable, so that the other party may seek appropriate injunctive relief. If no such relief is granted, or a waiver is not obtained from the other party, and if the first party is nonetheless, in the opinion of its legal advisers required to do so by law or the rules of any competent regulator, such party may disclose that portion only of the terms of this Deed which that party is advised by its legal advisers is required to be disclosed. Such party will use its reasonable endeavours to obtain assurance that confidential treatment will be accorded to any information disclosed.

14.4 If any party discloses the terms of this Deed to a person within clause 14.2 (excluding in accordance with clause 14.2.5) that Party will use its reasonable endeavours to obtain assurances that any information relating to the terms of this Deed will be treated by that person as confidential.

**Delivered as a deed on the date of this document.**

EXECUTION PAGE

Executed as a deed by **EAST ANGLIA ONE NORTH LIMITED** acting by [redacted] *[name of first director]* and [redacted] *[name of second director or secretary]*

[redacted]

Director/~~Secretary~~

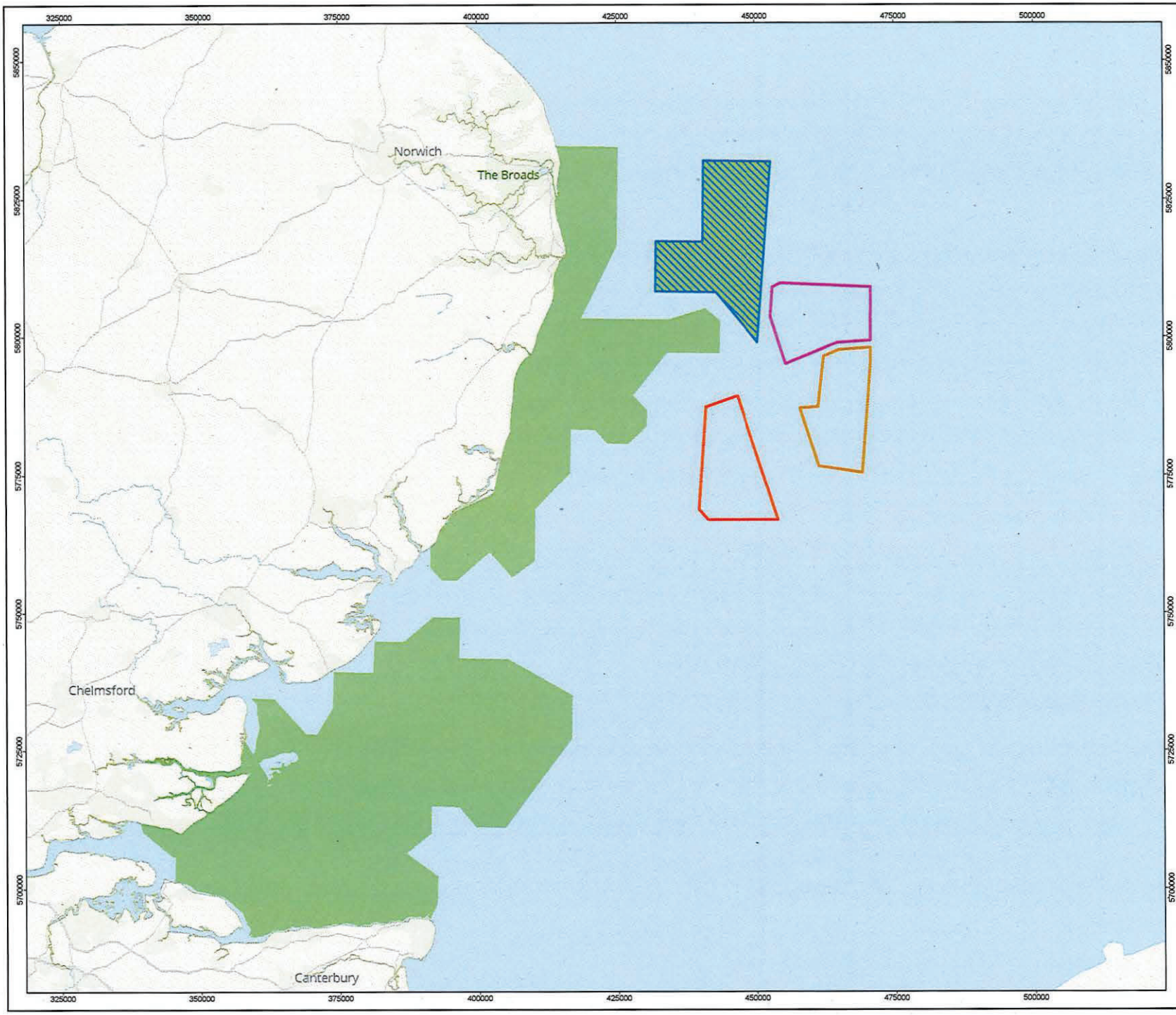
Executed as a deed by **EAST ANGLIA ONE LIMITED** acting by [redacted] *[name of first director]* and [redacted] *[name of second director or secretary]*

[redacted]

Director/Secretary

## Appendix 1

**Figure 1**




EA1 Windfarm DCO Boundary

EA1N Windfarm DCO Boundary

EA2 Windfarm DCO Boundary

Outer Thames Estuary SPA (OTE SPA)

Northern Component of the OTE SPA

Coastal Boundary

N

Notes:
DCO Boundaries correct as of 24/01/2022.
SPA designations © Natural England copyright.
Contains Ordnance Survey data © Crown copyright and database right 2020.

0 5 10 15 20 25 30 Kilometres


| REV | REV DATE | GIS CREATOR | GIS REVIEWER | TECHNICAL CHECKER | TECHNICAL APPROVER |
|---|---|---|---|---|---|
| 1 | 24/01/2022 | TG | JB | LJ | BM |

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|---|---|---|---|
| DRAWING NUMBER | EAH-GEN-GIS-DRG-IBR-000430 | | |
| DATUM | WGS84 | PROJECTION | UTM Zone 31N |
| SCALE | 1:650,000 | PAGE SIZE | A3 |
| PROJECT TITLE | East Anglia HUB | | |
| DRAWING TITLE | **Figure 1** | | |



SCOTTISHPOWER RENEWABLES

Project: E:\EAOWEAH_new\Offshore\Analysis\Human\Boundaries\Boundaries.aprx
Name: EAH-GEN-GIS-DRG-IBR-000430 Rev 1 Outer Thames Estuary SPA (including EA1)

SHEPHERD+ WEDDERBURN

AGREEMENT

between

East Anglia ONE NORTH Limited

and

East Anglia THREE Limited

Relating to: the East Anglia ONE North Offshore Windfarm Development Consent Order

Shepherd and Wedderburn LLP
Condor House
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CONTENTS

**CONSENT AGREEMENT** **Dated** 9 MARCH **2022**

between

**EAST ANGLIA ONE NORTH LIMITED** (Company Registration Number 11121800) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA1N**" which expression shall include its successors in title and assigns); and

**EAST ANGLIA THREE LIMITED** (Company Registration Number 08141208) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA3**" which expression shall include its successors in title and assigns).

**BACKGROUND**

(A) EA1N wishes to carry out the East Anglia ONE North Offshore Windfarm (the **"EA1N Project"**) and has made an application on 25 October 2019 for a Development Consent Order to authorise the works for the EA1N Project (the **"EA1N Order"**).

(B) EA3 wishes to carry out the East Anglia THREE Windfarm (the "**EA3 Project**") and was granted a Development Consent Order on 7 August 2017 authorising the work for the EA3 Project.

(C) EA1N maintains that there will be no adverse effect on the integrity ("**AEoI**") of the Outer Thames Estuary Special Protection Area ("**OTE SPA**") as a result of the EA1N Project alone or in combination. However, without prejudice to EA1N's position, EA1N has proposed in-principle compensatory measures that could be progressed should the Secretary of State conclude an AEoI on the red throated diver ("**RTD**") feature of the OTE SPA. The in-principle compensatory measures proposed requires vessel traffic associated with the EA3 Project to avoid the OTE SPA (excluding vessel traffic associated with works within the OTE SPA and vessels accessing ports and harbours where any part of that port or harbour or its approaches are located within the OTE SPA).

**OPERATIVE PROVISIONS**

## 1. Definitions and interpretation

1.1 In this Deed the following expressions shall have the following meanings and references to clauses are references to the clauses of this Deed:

| | |
|---|---|
| **"EA1N Offshore Works"** | means Work Nos. 1 to 6 as described in Schedule 1 of the EA1N Order; |
| **"EA1N Order"** | means the East Anglia ONE North Offshore Windfarm Development Consent Order as it is made by the Secretary of State; |
| **"EA3 Order"** | means the East Anglia THREE Offshore Wind Farm Order 2017, as amended; |
| **"Northern Component of the OTE SPA"** | means the part of the OTE SPA outlined and hatched in blue and shaded green shown on Figure 1 in Appendix 1; |
| **"OTE SPA Buffer"** | means the area of sea within 2km of the boundary of the OTE SPA; |
| **"Relevant EA3 Works"** | means Work Nos. 1, 2, 3 and 4 and Work No. 5A to the extent that the works are located outside the OTE SPA |

and the OTE SPA Buffer, all as described in Schedule 1 of the EA3 Order;

| | |
|---|---|
| **"RTD Implementation and Monitoring Plan"** | means the red-throated diver implementation and monitoring plan or an equivalent plan required to be submitted to the Secretary of State for approval in accordance with the EA1N Order and which must include details of the compensation measures for RTD, including an implementation timetable for delivery of the measures; |
| **"Secretary of State"** | means the Secretary of State for Business, Energy and Industrial Strategy; |
| **"Undertaker"** | means the undertaker or undertakers as defined in the EA1N Order or the EA3 Order, as the case may be, and appointed for time to time. |

1.2 The headings in this Deed are for convenience only and shall not be taken into account in the construction and interpretation of this Deed.

1.3 References in this Deed to clauses are (unless otherwise expressly provided) references to relevant clauses contained in this Deed.

## 2. Conditionality

2.1 Save in respect of clause 14, and subject to clause 2.2, this Deed is conditional upon:

2.1.1 the making of the EA1N Order by the Secretary of State; and

2.1.2 an obligation being included in the EA1N Order for EA1N to provide compensatory measures in respect of the RTD feature of the OTE SPA.

2.2 Clauses 3.1.1, 3.1.2, 3.1.4 and 3.1.5 are conditional upon EA3 vessel re-routing being included as a compensatory measure in the approved RTD Implementation and Monitoring Plan and take effect in accordance with the timescales set out in the approved RTD Implementation and Monitoring Plan.

2.3 EA3 shall no longer be required to carry out its duties and obligations under this Deed and shall have no further liability to EA1N in respect thereof upon the date determined by the Secretary of State as being the date on which compensatory measures are no longer required or, where no such date is determined, upon the decommissioning of the EA1N Offshore Works.

## 3. Covenants of EA3

3.1 EA3 HEREBY UNDERTAKES AND AGREES:

3.1.1 that, subject to clause 3.2, EA3 will procure that all vessel traffic engaged in the construction, operation, maintenance and decommissioning of the Relevant EA3 Works will avoid the Northern Component of the OTE SPA from 1 November to 31 March inclusive;

3.1.2 that, subject to clauses 3.2, 3.3 and 3.4, EA3 will procure that all vessel traffic engaged in the construction, operation, maintenance and decommissioning of the Relevant EA3 Works will avoid the OTE SPA and the OTE SPA Buffer from 1 November to 31 March inclusive;

3.1.3 that EA3 will participate in the RTD compensation steering group if invited to attend;

3.1.4 that EA3 will comply with the measures set out in the RTD Implementation and Monitoring Plan to the extent that they relate to the Relevant EA3 Works and only in so far as they require EA3 to take any action set out in clauses 3.1.1 and 3.1.2;

3.1.5 that EA3 will provide monthly reports to EA1N to demonstrate compliance with clauses 3.1.1 and 3.1.2.

3.2 Clauses 3.1.1 and 3.1.2 do not apply in the case of an emergency or where there are health and safety grounds (including, but not limited to, due to inclement weather) requiring a direct route to be taken through the OTE SPA or the OTE SPA Buffer;

3.3 Clause 3.1.2 does not apply to vessel traffic accessing ports and harbours within the OTE SPA or OTE SPA Buffer where any part of that port or harbour or its approaches are located within the OTE SPA and/or OTE SPA Buffer.

3.4 The requirement to avoid the OTE SPA Buffer within clause 3.1.2 does not apply:

3.4.1 to vessels travelling in opposite directions in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 6km or less; and

3.4.2 to all other vessels in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 4.2km or less,

but in such areas vessel traffic will traverse between the Northern Component of the OTE SPA and the remainder of the OTE SPA as close to the mid point between the two components of the OTE SPA as is reasonably practicable whilst allowing for an appropriate separation distance between passing vessels in the case of 3.4.1.

## 4. Covenants of EA1N

4.1 EA1N HEREBY UNDERTAKES AND AGREES:

4.1.1 to invite EA3 to participate in the RTD compensation steering group and, to the extent it is able to do so, to ensure that EA3 is not prevented from attending by any other person;

4.1.2 subject to clause 4.2 below, to obtain approval from EA3 to the measures contained within the RTD Implementation and Monitoring Plan to the extent that they relate to the provisions set out in clause 3.1.1 and 3.1.2, prior to the submission of the RTD Implementation Plan to the Secretary of State or any other governmental authority; and

4.1.3 to provide EA3 with a copy of the approved RTD Implementation and Monitoring Plan within two working days of notification of approval of the RTD Implementation and Monitoring Plan.

4.2 Approval under clause 4.1.2 must not be unreasonably withheld or delayed by EA3 if the measures contained within the RTD Implementation and Monitoring Plan which impact or affect EA3 are limited to the actions and undertakings contemplated in clauses 3.1.1 and 3.1.2.

## 5. Good faith and co-operation

5.1 The parties to this Deed shall act towards each other at all times in good faith and shall co-operate and fully consult with each other regarding their respective obligations under the terms of this Deed.

## 6. Partial invalidity

6.1 If any provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable it shall not affect the validity, legality or enforceability of the remainder of this Deed.

6.2 If any part of a provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable but the rest of such provision would remain valid lawful or enforceable if part of the wording were deleted, the provision shall be deemed modified to the minimum extent necessary to make it valid, legal and enforceable but without affecting the meaning or legality validity or enforceability of any other provision of this Deed.

## 7. Entire Agreement

7.1 This Deed constitutes the entire agreement between the parties and supersedes and extinguishes all previous and contemporaneous agreements, promises, assurances and understandings between them, whether written or oral, relating to its subject matter.

7.2 For the avoidance of doubt, the agreement between (1) East Anglia ONE North Limited and (2) East Anglia ONE Limited dated 30 November 2021 is superseded and ceases to have effect upon the completion of this Deed.

## 8. Variation of Agreement

8.1 No amendment or modification of this Deed shall be valid or binding on the parties to this Deed unless the same:

8.1.1 is made in writing;

8.1.2 refers expressly to this Deed; and

8.1.3 is executed on behalf of EA1N and EA3.

## 9. Counterparts

9.1 This Deed may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original, but all the counterparts shall together constitute the one agreement.

9.2 No counterpart shall be effective until each party has executed and delivered at least one counterpart.

## 10. Third Party Rights

10.1 Only the parties to the agreement may enforce the terms of this Deed and no third party may enforce such a term under the Contracts (Rights of Third Parties) Act 1999 provided always that any successors to the business of EA1N shall be entitled to the benefit of this Deed.

## 11. Transfer of Powers

11.1 In the event that:

11.1.1 any person other than EA3 is defined as the "Undertaker" for the purposes of the EA3 Order in respect of the Relevant EA3 Works, and/or

11.1.2 the powers of the "Undertaker" under the EA3 Order in respect of the Relevant EA3 Works are transferred or leased to any other person; and

11.1.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA3 will without delay require the Transferee to enter into a deed of covenant in favour of EA1N that the Transferee shall observe and perform such of the obligations of and restrictions on EA3 under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.2 EA3 shall remain liable to EA1N under this Deed until EA3 has complied with clause 11.1.

11.3 Upon compliance with clause 11.1, EA3 shall no longer owe any duty or obligation to EA1N in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA1N shall release and discharge EA3 from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

11.4 In the event that:

11.4.1 any person other than EA1N is defined as the "Undertaker" for the purposes of the EA1N Order in respect of the EA1N Offshore Works, and/or

11.4.2 the powers of the "Undertaker" under the EA1N Order in respect of the EA1N Offshore Works are transferred or leased to any other person; and

11.4.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA1N will without delay require the Transferee to enter into a deed of covenant in favour of EA3 that the Transferee shall observe and perform such of the obligations of and restrictions on EA1N under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.5 EA1N shall remain liable to EA3 under this Deed until EA1N has complied with clause 11.4.

11.6 Upon compliance with clause 11.4, EA1N shall no longer owe any duty or obligation to EA3 in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA3 shall release and discharge EA1N from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

## 12. Notices

12.1 Any notice given under or in relation to this Deed shall be in writing and shall refer to this Deed and shall be deemed to be sufficiently served if addressed to EA1N or EA3, as the case may be, and sent by recorded delivery or registered post to the address of the Parties given in this Deed or to such other address as they may from time to time designate by written notice to the other.

12.2 Any notice sent in accordance with clause 12.1 shall be deemed, in the absence of evidence of earlier receipt, to have been delivered two days after costing or despatch, exclusive of the day of posting.

## 13. Governing Law and Jurisdiction

13.1 This Deed and any non-contractual obligations arising in connection with it (and, unless provided otherwise, any document entered into in connection with it) are governed by and construed in accordance with English law.

13.2 The English courts have exclusive jurisdiction to determine any dispute arising in connection with this Deed (and, unless provided otherwise, any document entered into in connection with it), including disputes relating to any non-contractual obligations.

## 14. Confidentiality

14.1 EA1N and EA3 Energy agree to keep confidential and not disclose to any third party the content of this Deed.

14.2 Either party may disclose the fact and details of this Deed, or its terms:

14.2.1 pursuant to an order of the Court, or by compulsion of law or the rules of any competent regulator;

14.2.2 to any of their auditors, professional legal advisers or insurers;

14.2.3 to:

(i) any bona fide potential purchaser of shares in (or the assets of) EA1N or EA3 and its external professional consultants and advisers;

(ii) any bona fide bank or financial institution (and its external professional consultants and advisers) from whom EA1N or EA3 is seeking or obtaining finance or financial advice

provided that in the case of disclosure under clause 14.2.3(i) and 14.2.3(ii) such third party is either bound by a professional duty of confidence or has first executed a confidentiality agreement containing confidentiality provisions no less onerous than those set out herein;

14.2.4 with the prior written consent of the other Party; or

14.2.5 to respond to a question or request for information from the Secretary of State.

14.3 In the event that any party considers that it is required by law or by the rules of any competent regulator to disclose any terms of this Deed such party will provide the other party with such prompt written notice of such requirement as is reasonably practicable, so that the other party may seek appropriate injunctive relief. If no such relief is granted, or a waiver is not obtained from the other party, and if the first party is nonetheless, in the opinion of its legal advisers required to do so by law or the rules of any competent regulator, such party may disclose that portion only of the terms of this Deed which that party is advised by its legal advisers is required to be disclosed. Such party will use its reasonable endeavours to obtain assurance that confidential treatment will be accorded to any information disclosed.

14.4 If any party discloses the terms of this Deed to a person within clause 14.2 (excluding in accordance with clause 14.2.5) that Party will use its reasonable endeavours to obtain assurances that any information relating to the terms of this Deed will be treated by that person as confidential.

**Delivered as a deed on the date of this document.**

**EXECUTION PAGE**

Executed as a deed by **EAST ANGLIA ONE NORTH LIMITED** acting by [redacted]... *[name of first director]* and [redacted] *[name of second director or secretary]*

)
)
) Director

[redacted]

Director/Secretary

Executed as a deed by **EAST ANGLIA THREE LIMITED** acting by [redacted]..... *[name of first director]* and [redacted] *[name of second director or secretary]*

[redacted]

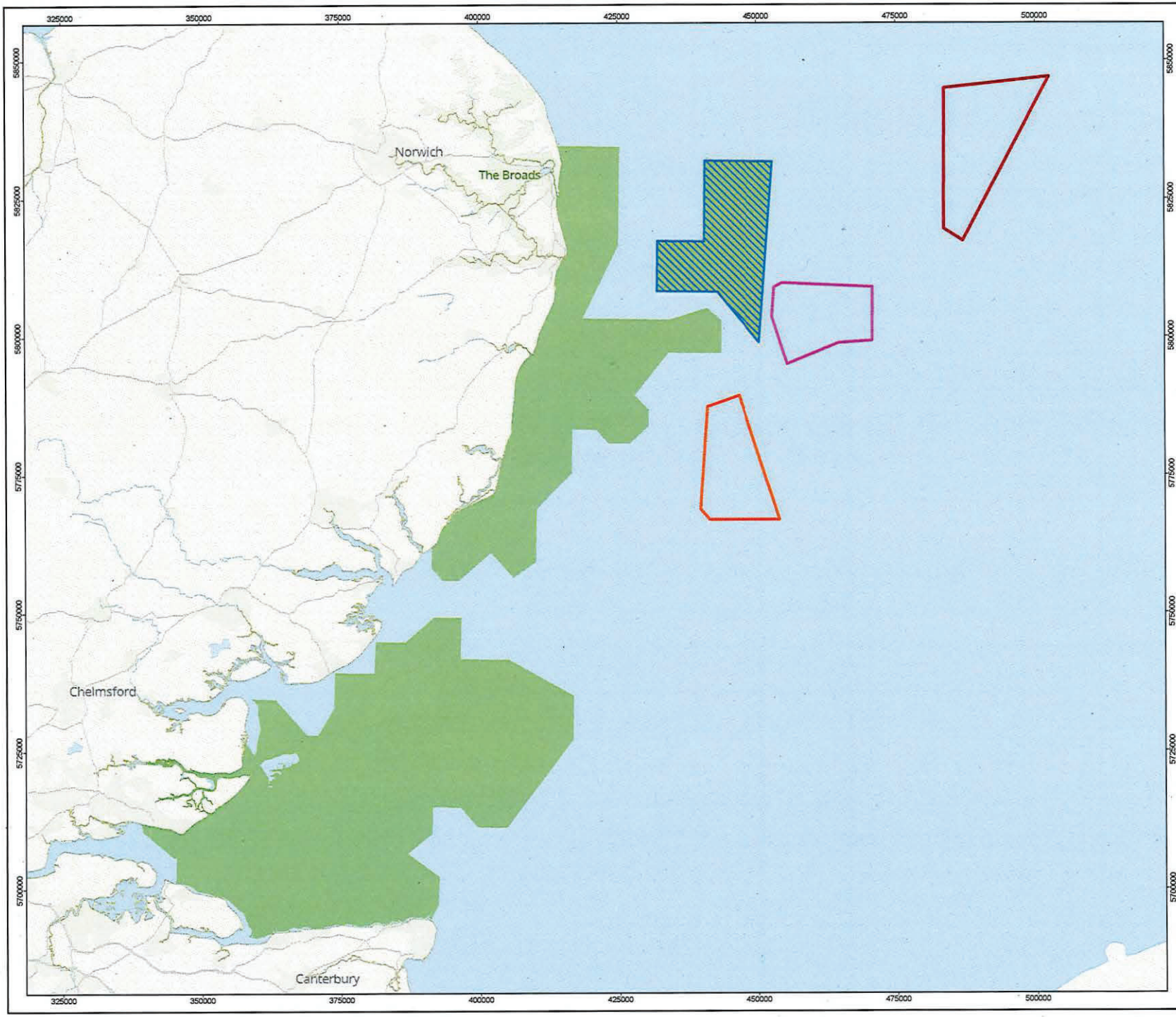
) Director

[redacted]

Director/Secretary

## Appendix 1

**Figure 1**




EA1N Windfarm DCO Boundary

EA2 Windfarm DCO Boundary

EA3 Windfarm DCO Boundary

Outer Thames Estuary SPA (OTE SPA)

Northern Component of the OTE SPA

Coastal Boundary

N

Notes:
DCO Boundaries correct as of 23/11/2021.
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Contains Ordnance Survey data © Crown copyright and database right 2020.

0 5 10 15 20 25 30 Kilometres


| REV | REV DATE | GIS CREATOR | GIS REVIEWER | TECHNICAL CHECKER | TECHNICAL APPROVER |
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| DATUM | WGS84 | PROJECTION | UTM Zone 31N |
| SCALE | 1:650,000 | PAGE SIZE | A3 |
| PROJECT TITLE | East Anglia HUB | | |
| DRAWING TITLE | **Figure 1** | | |



SCOTTISHPOWER RENEWABLES

Project: E:\EAOWEAH_new\Offshore\Analysis\Human\Boundaries\Boundaries.aprx
Name: EAH-GEN-GIS-DRG-IBR-000416 Rev 2 Outer Thames Estuary SPA

SHEPHERD+WEDDERBURN

# CONSENT AGREEMENT

between

East Anglia TWO Limited

and

East Anglia ONE Limited

Relating to: the East Anglia TWO Offshore Windfarm Development Consent Order

Shepherd and Wedderburn LLP
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CONTENTS

**CONSENT AGREEMENT** **Dated** 9 MARCH **2022**

between

**EAST ANGLIA TWO LIMITED** (Company Registration Number 11121842) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA2**" which expression shall include its successors in title and assigns); and

**EAST ANGLIA ONE LIMITED** (Company Registration Number 07366753) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA1**" which expression shall include its successors in title and assigns).

**BACKGROUND**

(A) EA2 wishes to carry out the East Anglia TWO Offshore Windfarm (the **"EA2 Project"**) and has made an application on 25 October 2019 for a Development Consent Order to authorise the works for the EA2 Project (the **"EA2 Order"**).

(B) EA1 wishes to continue to operate and maintain the East Anglia ONE Windfarm (the "**EA1 Project**") which was granted a Development Consent Order on 16 June 2014. The EA1 Project commenced construction in 2017 and became fully operational in July 2020.

(C) EA2 maintains that there will be no adverse effect on the integrity ("**AEoI**") of the Outer Thames Estuary Special Protection Area ("**OTE SPA**") as a result of the EA2 Project alone or in combination. However, without prejudice to EA2's position, EA2 has proposed in-principle compensatory measures that could be progressed should the Secretary of State conclude an AEoI on the red throated diver ("**RTD**") feature of the OTE SPA. The in-principle compensatory measures proposed requires crew transfer vessel traffic associated with the operation, maintenance and decommissioning of the generation assets forming part of the EA1 Project to avoid the OTE SPA (excluding vessels accessing ports and harbours where any part of that port or harbour or its approaches are located within the OTE SPA).

**OPERATIVE PROVISIONS**

## 1. Definitions and interpretation

1.1 In this Deed the following expressions shall have the following meanings and references to clauses are references to the clauses of this Deed:

| | |
|---|---|
| **"EA1 Compensation Measures"** | has the meaning given in clause 3.1; |
| **"EA2 Offshore Works"** | means Work Nos. 1 to 6 as described in Schedule 1 of the EA2 Order; |
| **"EA2 Order"** | means the East Anglia TWO Offshore Windfarm Development Consent Order as it is made by the Secretary of State; |
| **"EA1 Order"** | means the East Anglia ONE Offshore Wind Farm Order 2014, as amended; |
| **"Northern Component of the OTE SPA"** | means the part of the OTE SPA outlined and hatched in blue and shaded green shown on Figure 1 in Appendix 1; |
| **"OTE SPA Buffer"** | means the area of sea within 2km of the boundary of the OTE SPA; |

| | |
|---|---|
| **"Relevant EA1 Works"** | means Work No. 1(a), Work No. 1(c) and the network of subsea cables between the wind turbine generators and the HVAC offshore collector stations comprised within Work No. 1(d), all as described in Schedule 1 of the EA1 Order; |
| **"RTD Implementation and Monitoring Plan"** | means the red-throated diver implementation and monitoring plan or an equivalent plan required to be submitted to the Secretary of State for approval in accordance with the EA2 Order and which must include details of the compensation measures for RTD, including an implementation timetable for delivery of the measures; |
| **"Secretary of State"** | means the Secretary of State for Business, Energy and Industrial Strategy; |
| **"Undertaker"** | means the undertaker or undertakers as defined in the EA2 Order or the EA1 Order, as the case may be, and appointed for time to time; |
| **"Vessel"** | means crew transfer vessel. |

1.2 The headings in this Deed are for convenience only and shall not be taken into account in the construction and interpretation of this Deed.

1.3 References in this Deed to clauses are (unless otherwise expressly provided) references to relevant clauses contained in this Deed.

## 2. Conditionality

2.1 Save in respect of clause 14, and subject to clause 2.2, this Deed is conditional upon:

2.1.1 the making of the EA2 Order by the Secretary of State; and

2.1.2 an obligation being included in the EA2 Order for EA2 to provide compensatory measures in respect of the RTD feature of the OTE SPA.

2.2 Clauses 3.1.1, 3.1.2, 3.1.4 and 3.1.5 are conditional upon EA1 vessel re-routing being included as a compensatory measure in the approved RTD Implementation and Monitoring Plan and take effect in accordance with the timescales set out in the approved RTD Implementation and Monitoring Plan.

2.3 EA1 shall no longer be required to carry out its duties and obligations under this Deed and shall have no further liability to EA2 in respect thereof upon the date determined by the Secretary of State as being the date on which compensatory measures are no longer required or, where no such date is determined, upon the decommissioning of the EA2 Offshore Works.

## 3. Covenants of EA1

3.1 EA1 HEREBY UNDERTAKES AND AGREES:

3.1.1 that, subject to clause 3.2, EA1 will procure that all Vessel traffic engaged in the operation, maintenance and decommissioning of the Relevant EA1 Works will avoid the Northern Component of the OTE SPA from 1 November to 31 March inclusive;

3.1.2 that, subject to clauses 3.2, 3.3 and 3.4, EA1 will procure that all Vessel traffic engaged in the operation, maintenance and decommissioning of the Relevant EA1 Works will avoid the OTE SPA and the OTE SPA Buffer from 1 November to 31 March inclusive;

3.1.3 that EA1 will participate in the RTD compensation steering group if invited to attend;

3.1.4 that EA1 will comply with the measures set out in the RTD Implementation and Monitoring Plan to the extent that they relate to the Relevant EA1 Works and only in so far as they require EA1 to take any action set out in clauses 3.1.1 and 3.1.2; and

3.1.5 that EA1 will provide monthly reports to EA2 to demonstrate compliance with clauses 3.1.1 and 3.1.2,

together, the "**EA1 Compensation Measures**".

3.2 Clauses 3.1.1 and 3.1.2 do not apply in the case of an emergency or where there are health and safety grounds (including, but not limited to, due to inclement weather) requiring (in the opinion of any applicable Vessel operator) a direct route to be taken through the OTE SPA or the OTE SPA Buffer;

3.3 Clause 3.1.2 does not apply to Vessel traffic accessing ports and harbours within the OTE SPA or OTE SPA Buffer where any part of that port or harbour or its approaches are located within the OTE SPA and/or OTE SPA Buffer.

3.4 The requirement to avoid the OTE SPA Buffer within clause 3.1.2 does not apply:

3.4.1 to Vessels travelling in the opposite direction of another vessel in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 6km or less; and

3.4.2 to all other Vessels in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 4.2km or less,

but in such areas Vessel traffic will traverse between the Northern Component of the OTE SPA and the remainder of the OTE SPA as close to the mid point between the two components of the OTE SPA as is reasonably practicable whilst allowing for an appropriate separation distance between passing vessels in the case of 3.4.1.

## 4. Covenants of EA2

4.1 EA2 HEREBY UNDERTAKES AND AGREES:

4.1.1 to invite EA1 to participate in the RTD compensation steering group and, to the extent it is able to do so, to ensure that EA1 is not prevented from attending by any other person;

4.1.2 subject to clause 4.2 below, to obtain approval from EA1 to the measures contained within the RTD Implementation and Monitoring Plan to the extent that they relate to the provisions set out in clause 3.1.1 and 3.1.2, prior to the submission of the RTD Implementation Plan to the Secretary of State or any other governmental authority; and

4.1.3 to provide EA1 with a copy of the approved RTD Implementation and Monitoring Plan within two working days of notification of approval of the RTD Implementation and Monitoring Plan.

4.2 Approval under clause 4.1.2 must not be unreasonably withheld or delayed by EA1 if the measures contained within the RTD Implementation and Monitoring Plan which impact or affect EA1 are limited to the actions and undertakings contemplated in clauses 3.1.1 and 3.1.2.

## 5. Good faith and co-operation

5.1 The parties to this Deed shall act towards each other at all times in good faith and shall co-operate and fully consult with each other regarding their respective obligations under the terms of this Deed.

## 6. Partial invalidity

6.1 If any provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable it shall not affect the validity, legality or enforceability of the remainder of this Deed.

6.2 If any part of a provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable but the rest of such provision would remain valid lawful or enforceable if part of the wording were deleted, the provision shall be deemed modified to the minimum extent necessary to make it valid, legal and enforceable but without affecting the meaning or legality validity or enforceability of any other provision of this Deed.

## 7. Entire Agreement

7.1 This Deed constitutes the entire agreement between the parties and supersedes and extinguishes all previous and contemporaneous agreements, promises, assurances and understandings between them, whether written or oral, relating to its subject matter.

7.2 For the avoidance of doubt, the agreement between (1) East Anglia TWO Limited and (2) East Anglia ONE Limited dated 31 January 2022 is superseded and ceases to have effect upon the completion of this Deed.

## 8. Variation of Agreement

8.1 No amendment or modification of this Deed shall be valid or binding on the parties to this Deed unless the same:

8.1.1 is made in writing;

8.1.2 refers expressly to this Deed; and

8.1.3 is executed on behalf of EA2 and EA1.

## 9. Counterparts

9.1 This Deed may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original, but all the counterparts shall together constitute the one agreement.

9.2 No counterpart shall be effective until each party has executed and delivered at least one counterpart.

## 10. Third Party Rights

10.1 Only the parties to the agreement may enforce the terms of this Deed and no third party may enforce such a term under the Contracts (Rights of Third Parties) Act 1999 provided always that any successors to the business of EA2 shall be entitled to the benefit of this Deed.

## 11. Transfer of Powers

11.1 In the event that:

11.1.1 any person other than EA1 is defined as the "Undertaker" for the purposes of the EA1 Order in respect of the Relevant EA1 Works, and/or

11.1.2 the powers of the "Undertaker" under the EA1 Order in respect of the Relevant EA1 Works are transferred or leased to any other person; and

11.1.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA1 will without delay require the Transferee to enter into a deed of covenant in favour of EA2 that the Transferee shall observe and perform such of the obligations of and restrictions on EA1 under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.2 EA1 shall remain liable to EA2 under this Deed until EA1 has complied with clause 11.1.

11.3 Upon compliance with clause 11.1, EA1 shall no longer owe any duty or obligation to EA2 in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA2 shall release and discharge EA1 from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

11.4 In the event that:

11.4.1 any person other than EA2 is defined as the "Undertaker" for the purposes of the EA2 Order in respect of the EA2 Offshore Works, and/or

11.4.2 the powers of the "Undertaker" under the EA2 Order in respect of the EA2 Offshore Works are transferred or leased to any other person; and

11.4.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA2 will without delay require the Transferee to enter into a deed of covenant in favour of EA1 that the Transferee shall observe and perform such of the obligations of and restrictions on EA2 under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.5 EA2 shall remain liable to EA1 under this Deed until EA2 has complied with clause 11.4.

11.6 Upon compliance with clause 11.4, EA2 shall no longer owe any duty or obligation to EA1 in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA1 shall release and discharge EA2 from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

## 12. Notices

12.1 Any notice given under or in relation to this Deed shall be in writing and shall refer to this Deed and shall be deemed to be sufficiently served if addressed to EA2 or EA1, as the case may be, and sent by recorded delivery or registered post to the address of the Parties given in this Deed or to such other address as they may from time to time designate by written notice to the other.

12.2 Any notice sent in accordance with clause 12.1 shall be deemed, in the absence of evidence of earlier receipt, to have been delivered two days after costing or despatch, exclusive of the day of posting.

## 13. Governing Law and Jurisdiction

13.1 This Deed and any non-contractual obligations arising in connection with it (and, unless provided otherwise, any document entered into in connection with it) are governed by and construed in accordance with English law.

13.2 The English courts have exclusive jurisdiction to determine any dispute arising in connection with this Deed (and, unless provided otherwise, any document entered into in connection with it), including disputes relating to any non-contractual obligations.

## 14. Confidentiality

14.1 EA2 and EA1 Energy agree to keep confidential and not disclose to any third party the content of this Deed.

14.2 Either party may disclose the fact and details of this Deed, or its terms:

14.2.1 pursuant to an order of the Court, or by compulsion of law or the rules of any competent regulator;

14.2.2 to any of their auditors, professional legal advisers or insurers;

14.2.3 to:

(i) any bona fide potential purchaser of shares in (or the assets of) EA2 or EA1 and its external professional consultants and advisers;

(ii) any bona fide bank or financial institution (and its external professional consultants and advisers) from whom EA2 or EA1 is seeking or obtaining finance or financial advice

provided that in the case of disclosure under clause 14.2.3(i) and 14.2.3(ii) such third party is either bound by a professional duty of confidence or has first executed a confidentiality agreement containing confidentiality provisions no less onerous than those set out herein;

14.2.4 with the prior written consent of the other Party; or

14.2.5 to respond to a question or request for information from the Secretary of State.

14.3 In the event that any party considers that it is required by law or by the rules of any competent regulator to disclose any terms of this Deed such party will provide the other party with such prompt written notice of such requirement as is reasonably practicable, so that the other party may seek appropriate injunctive relief. If no such relief is granted, or a waiver is not obtained from the other party, and if the first party is nonetheless, in the opinion of its legal advisers required to do so by law or the rules of any competent regulator, such party may disclose that portion only of the terms of this Deed which that party is advised by its legal advisers is required to be disclosed. Such party will use its reasonable endeavours to obtain assurance that confidential treatment will be accorded to any information disclosed.

14.4 If any party discloses the terms of this Deed to a person within clause 14.2 (excluding in accordance with clause 14.2.5) that Party will use its reasonable endeavours to obtain assurances that any information relating to the terms of this Deed will be treated by that person as confidential.

**Delivered as a deed on the date of this document.**

**EXECUTION PAGE**

Executed as a deed by **EAST ANGLIA TWO LIMITED** acting by [redacted] *[name of first director]* and [redacted] *[name of second director or secretary]*

)
)
)

[redacted]
Director

[redacted]
Director/Secretary

Executed as a deed by **EAST ANGLIA ONE LIMITED** acting by [redacted] *[name of first director]* and [redacted] *[name of second director or secretary]*

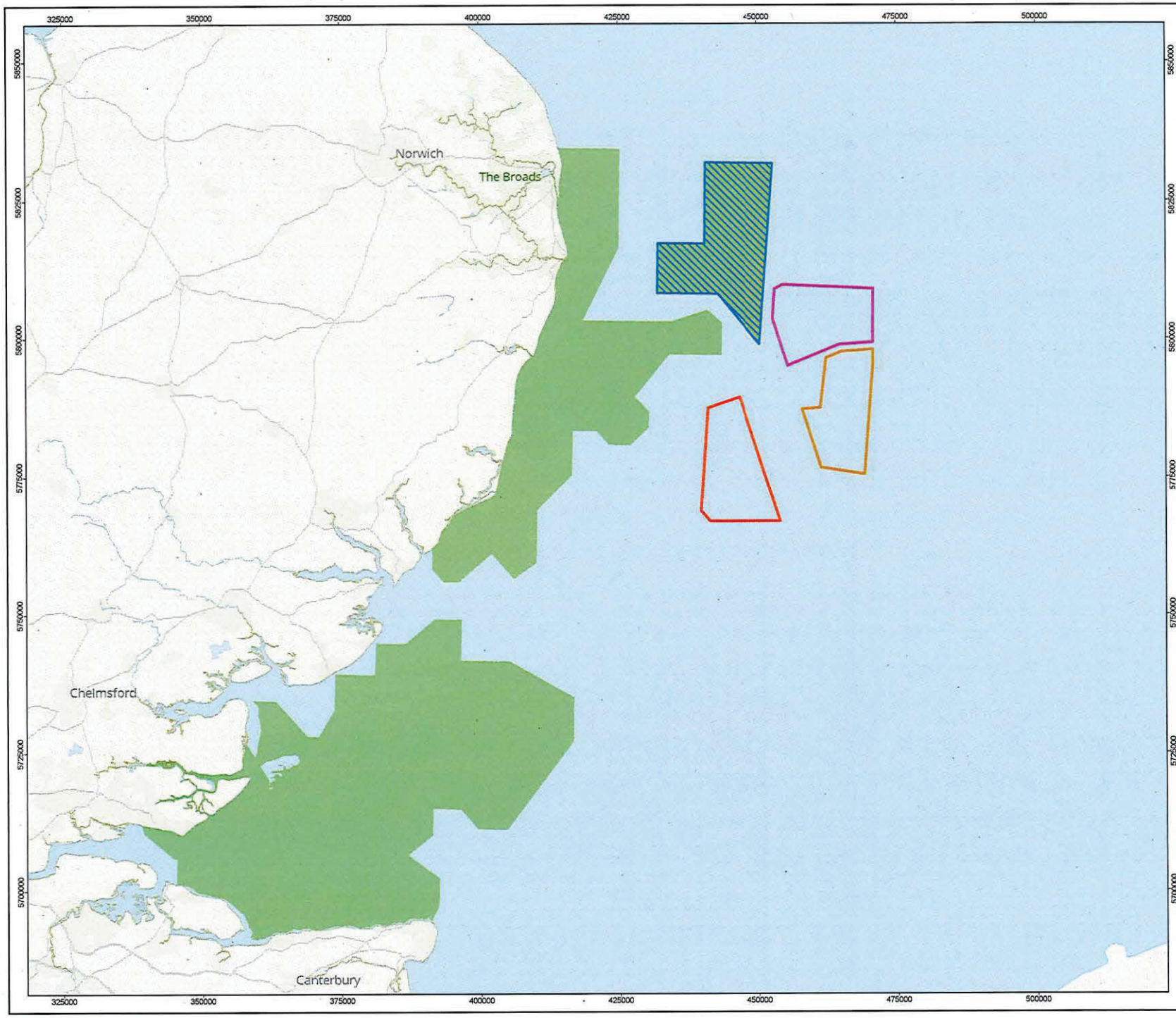
)
)

[redacted]
Director

[redacted]
Director/Secretary

## Appendix 1

**Figure 1**




EA1 Windfarm DCO Boundary

EA1N Windfarm DCO Boundary

EA2 Windfarm DCO Boundary

Outer Thames Estuary SPA (OTE SPA)

Northern Component of the OTE SPA

Coastal Boundary

N

Notes:
DCO Boundaries correct as of 24/01/2022.
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0 5 10 15 20 25 30 Kilometres


| REV | REV DATE | GIS CREATOR | GIS REVIEWER | TECHNICAL CHECKER | TECHNICAL APPROVER |
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| PROJECT TITLE | East Anglia HUB | | |
| DRAWING TITLE | **Figure 1** | | |



SCOTTISHPOWER RENEWABLES

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Name: EAH-GEN-GIS-DRG-IBR-000430 Rev 1 Outer Thames Estuary SPA (including EA1)

SHEPHERD+ WEDDERBURN

AGREEMENT

between

East Anglia TWO Limited

and

East Anglia THREE Limited

Relating to: the East Anglia TWO Offshore Windfarm Development Consent Order

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CONTENTS

**CONSENT AGREEMENT** **Dated** 9 MARCH **2022**

between

**EAST ANGLIA TWO LIMITED** (Company Registration Number 11121842) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA2**" which expression shall include its successors in title and assigns); and

**EAST ANGLIA THREE LIMITED** (Company Registration Number 08141208) whose registered office is at 3rd Floor, 1 Tudor Street, London, EC4Y 0AH ("**EA3**" which expression shall include its successors in title and assigns).

**BACKGROUND**

(A) EA2 wishes to carry out the East Anglia TWO Offshore Windfarm (the **"EA2 Project"**) and has made an application on 25 October 2019 for a Development Consent Order to authorise the works for the EA2 Project (the **"EA2 Order"**).

(B) EA3 wishes to carry out the East Anglia THREE Windfarm (the "**EA3 Project**") and was granted a Development Consent Order on 7 August 2017 authorising the work for the EA3 Project.

(C) EA2 maintains that there will be no adverse effect on the integrity ("**AEoI**") of the Outer Thames Estuary Special Protection Area ("**OTE SPA**") as a result of the EA2 Project alone or in combination. However, without prejudice to EA2's position, EA2 has proposed in-principle compensatory measures that could be progressed should the Secretary of State conclude an AEoI on the red throated diver ("**RTD**") feature of the OTE SPA. The in-principle compensatory measures proposed requires vessel traffic associated with the EA3 Project to avoid the OTE SPA (excluding vessel traffic associated with works within the OTE SPA and vessels accessing ports and harbours where any part of that port or harbour or its approaches are located within the OTE SPA).

**OPERATIVE PROVISIONS**

## 1. Definitions and interpretation

1.1 In this Deed the following expressions shall have the following meanings and references to clauses are references to the clauses of this Deed:

| | |
|---|---|
| **"EA2 Offshore Works"** | means Work Nos. 1 to 6 as described in Schedule 1 of the EA2 Order; |
| **"EA2 Order"** | means the East Anglia TWO Offshore Windfarm Development Consent Order as it is made by the Secretary of State; |
| **"EA3 Order"** | means the East Anglia THREE Offshore Wind Farm Order 2017, as amended; |
| **"Northern Component of the OTE SPA"** | means the part of the OTE SPA outlined and hatched in blue and shaded green shown on Figure 1 in Appendix 1; |
| **"OTE SPA Buffer"** | means the area of sea within 2km of the boundary of the OTE SPA; |
| **"Relevant EA3 Works"** | means Work Nos. 1, 2, 3 and 4 and Work No. 5A to the extent that the works are located outside the OTE SPA |

| | |
|---|---|
| | and the OTE SPA Buffer, all as described in Schedule 1 of the EA3 Order; |
| **"RTD Implementation and Monitoring Plan"** | means the red-throated diver implementation and monitoring plan or an equivalent plan required to be submitted to the Secretary of State for approval in accordance with the EA2 Order and which must include details of the compensation measures for RTD, including an implementation timetable for delivery of the measures; |
| **"Secretary of State"** | means the Secretary of State for Business, Energy and Industrial Strategy; |
| **"Undertaker"** | means the undertaker or undertakers as defined in the EA2 Order or the EA3 Order, as the case may be, and appointed for time to time. |

1.2 The headings in this Deed are for convenience only and shall not be taken into account in the construction and interpretation of this Deed.

1.3 References in this Deed to clauses are (unless otherwise expressly provided) references to relevant clauses contained in this Deed.

## 2. Conditionality

2.1 Save in respect of clause 14, and subject to clause 2.2, this Deed is conditional upon:

2.1.1 the making of the EA2 Order by the Secretary of State; and

2.1.2 an obligation being included in the EA2 Order for EA2 to provide compensatory measures in respect of the RTD feature of the OTE SPA.

2.2 Clauses 3.1.1, 3.1.2, 3.1.4 and 3.1.5 are conditional upon EA3 vessel re-routing being included as a compensatory measure in the approved RTD Implementation and Monitoring Plan and take effect in accordance with the timescales set out in the approved RTD Implementation and Monitoring Plan.

2.3 EA3 shall no longer be required to carry out its duties and obligations under this Deed and shall have no further liability to EA2 in respect thereof upon the date determined by the Secretary of State as being the date on which compensatory measures are no longer required or, where no such date is determined, upon the decommissioning of the EA2 Offshore Works.

## 3. Covenants of EA3

3.1 EA3 HEREBY UNDERTAKES AND AGREES:

3.1.1 that, subject to clause 3.2, EA3 will procure that all vessel traffic engaged in the construction, operation, maintenance and decommissioning of the Relevant EA3 Works will avoid the Northern Component of the OTE SPA from 1 November to 31 March inclusive;

3.1.2 that, subject to clauses 3.2, 3.3 and 3.4, EA3 will procure that all vessel traffic engaged in the construction, operation, maintenance and decommissioning of the Relevant EA3 Works will avoid the OTE SPA and the OTE SPA Buffer from 1 November to 31 March inclusive;

3.1.3 that EA3 will participate in the RTD compensation steering group if invited to attend;

3.1.4 that EA3 will comply with the measures set out in the RTD Implementation and Monitoring Plan to the extent that they relate to the Relevant EA3 Works and only in so far as they require EA3 to take any action set out in clauses 3.1.1 and 3.1.2;

3.1.5 that EA3 will provide monthly reports to EA2 to demonstrate compliance with clauses 3.1.1 and 3.1.2.

3.2 Clauses 3.1.1 and 3.1.2 do not apply in the case of an emergency or where there are health and safety grounds (including, but not limited to, due to inclement weather) requiring a direct route to be taken through the OTE SPA or the OTE SPA Buffer;

3.3 Clause 3.1.2 does not apply to vessel traffic accessing ports and harbours within the OTE SPA or OTE SPA Buffer where any part of that port or harbour or its approaches are located within the OTE SPA and/or OTE SPA Buffer.

3.4 The requirement to avoid the OTE SPA Buffer within clause 3.1.2 does not apply:

3.4.1 to vessels travelling in opposite directions in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 6km or less; and

3.4.2 to all other vessels in areas between the Northern Component of the OTE SPA and the remainder of the OTE SPA where the distance between the two components of the OTE SPA is 4.2km or less,

but in such areas vessel traffic will traverse between the Northern Component of the OTE SPA and the remainder of the OTE SPA as close to the mid point between the two components of the OTE SPA as is reasonably practicable whilst allowing for an appropriate separation distance between passing vessels in the case of 3.4.1.

## 4. Covenants of EA2

4.1 EA2 HEREBY UNDERTAKES AND AGREES:

4.1.1 to invite EA3 to participate in the RTD compensation steering group and, to the extent it is able to do so, to ensure that EA3 is not prevented from attending by any other person;

4.1.2 subject to clause 4.2 below, to obtain approval from EA3 to the measures contained within the RTD Implementation and Monitoring Plan to the extent that they relate to the provisions set out in clause 3.1.1 and 3.1.2, prior to the submission of the RTD Implementation Plan to the Secretary of State or any other governmental authority; and

4.1.3 to provide EA3 with a copy of the approved RTD Implementation and Monitoring Plan within two working days of notification of approval of the RTD Implementation and Monitoring Plan.

4.2 Approval under clause 4.1.2 must not be unreasonably withheld or delayed by EA3 if the measures contained within the RTD Implementation and Monitoring Plan which impact or affect EA3 are limited to the actions and undertakings contemplated in clauses 3.1.1 and 3.1.2.

## 5. Good faith and co-operation

5.1 The parties to this Deed shall act towards each other at all times in good faith and shall co-operate and fully consult with each other regarding their respective obligations under the terms of this Deed.

## 6. Partial invalidity

6.1 If any provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable it shall not affect the validity, legality or enforceability of the remainder of this Deed.

6.2 If any part of a provision of this Deed is or becomes or is declared invalid unlawful illegal or unenforceable but the rest of such provision would remain valid lawful or enforceable if part of the wording were deleted, the provision shall be deemed modified to the minimum extent necessary to make it valid, legal and enforceable but without affecting the meaning or legality validity or enforceability of any other provision of this Deed.

## 7. Entire Agreement

7.1 This Deed constitutes the entire agreement between the parties and supersedes and extinguishes all previous and contemporaneous agreements, promises, assurances and understandings between them, whether written or oral, relating to its subject matter.

7.2 For the avoidance of doubt, the agreement between (1) East Anglia TWO Limited and (2) East Anglia ONE Limited dated 30 November 2021 is superseded and ceases to have effect upon the completion of this Deed.

## 8. Variation of Agreement

8.1 No amendment or modification of this Deed shall be valid or binding on the parties to this Deed unless the same:

8.1.1 is made in writing;

8.1.2 refers expressly to this Deed; and

8.1.3 is executed on behalf of EA2 and EA3.

## 9. Counterparts

9.1 This Deed may be executed in any number of counterparts, each of which when executed and delivered shall constitute a duplicate original, but all the counterparts shall together constitute the one agreement.

9.2 No counterpart shall be effective until each party has executed and delivered at least one counterpart.

## 10. Third Party Rights

10.1 Only the parties to the agreement may enforce the terms of this Deed and no third party may enforce such a term under the Contracts (Rights of Third Parties) Act 1999 provided always that any successors to the business of EA2 shall be entitled to the benefit of this Deed.

## 11. Transfer of Powers

11.1 In the event that:

11.1.1 any person other than EA3 is defined as the "Undertaker" for the purposes of the EA3 Order in respect of the Relevant EA3 Works, and/or

11.1.2 the powers of the "Undertaker" under the EA3 Order in respect of the Relevant EA3 Works are transferred or leased to any other person; and

11.1.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA3 will without delay require the Transferee to enter into a deed of covenant in favour of EA2 that the Transferee shall observe and perform such of the obligations of and restrictions on EA3 under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.2 EA3 shall remain liable to EA2 under this Deed until EA3 has complied with clause 11.1.

11.3 Upon compliance with clause 11.1, EA3 shall no longer owe any duty or obligation to EA2 in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA2 shall release and discharge EA3 from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

11.4 In the event that:

11.4.1 any person other than EA2 is defined as the "Undertaker" for the purposes of the EA2 Order in respect of the EA2 Offshore Works, and/or

11.4.2 the powers of the "Undertaker" under the EA2 Order in respect of the EA2 Offshore Works are transferred or leased to any other person; and

11.4.3 the provisions of this Deed are not otherwise made directly enforceable against any such person (the "Transferee"),

EA2 will without delay require the Transferee to enter into a deed of covenant in favour of EA3 that the Transferee shall observe and perform such of the obligations of and restrictions on EA2 under this Deed as relate to the exercise of the powers which have been transferred as though the Transferee had been an original party to this Deed.

11.5 EA2 shall remain liable to EA3 under this Deed until EA2 has complied with clause 11.4.

11.6 Upon compliance with clause 11.4, EA2 shall no longer owe any duty or obligation to EA3 in respect of the powers which have been transferred (save in respect of any pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers) and EA3 shall release and discharge EA2 from all claims, demands and other liabilities whatsoever in respect of those transferred powers (provided that there is no pre-existing claim and/or proceedings ongoing under this Deed in respect of those powers).

## 12. Notices

12.1 Any notice given under or in relation to this Deed shall be in writing and shall refer to this Deed and shall be deemed to be sufficiently served if addressed to EA2 or EA3, as the case may be, and sent by recorded delivery or registered post to the address of the Parties given in this Deed or to such other address as they may from time to time designate by written notice to the other.

12.2 Any notice sent in accordance with clause 12.1 shall be deemed, in the absence of evidence of earlier receipt, to have been delivered two days after costing or despatch, exclusive of the day of posting.

## 13. Governing Law and Jurisdiction

13.1 This Deed and any non-contractual obligations arising in connection with it (and, unless provided otherwise, any document entered into in connection with it) are governed by and construed in accordance with English law.

13.2 The English courts have exclusive jurisdiction to determine any dispute arising in connection with this Deed (and, unless provided otherwise, any document entered into in connection with it), including disputes relating to any non-contractual obligations.

## 14. Confidentiality

14.1 EA2 and EA3 Energy agree to keep confidential and not disclose to any third party the content of this Deed.

14.2 Either party may disclose the fact and details of this Deed, or its terms:

14.2.1 pursuant to an order of the Court, or by compulsion of law or the rules of any competent regulator;

14.2.2 to any of their auditors, professional legal advisers or insurers;

14.2.3 to:

(i) any bona fide potential purchaser of shares in (or the assets of) EA2 or EA3 and its external professional consultants and advisers;

(ii) any bona fide bank or financial institution (and its external professional consultants and advisers) from whom EA2 or EA3 is seeking or obtaining finance or financial advice

provided that in the case of disclosure under clause 14.2.3(i) and 14.2.3(ii) such third party is either bound by a professional duty of confidence or has first executed a confidentiality agreement containing confidentiality provisions no less onerous than those set out herein;

14.2.4 with the prior written consent of the other Party; or

14.2.5 to respond to a question or request for information from the Secretary of State.

14.3 In the event that any party considers that it is required by law or by the rules of any competent regulator to disclose any terms of this Deed such party will provide the other party with such prompt written notice of such requirement as is reasonably practicable, so that the other party may seek appropriate injunctive relief. If no such relief is granted, or a waiver is not obtained from the other party, and if the first party is nonetheless, in the opinion of its legal advisers required to do so by law or the rules of any competent regulator, such party may disclose that portion only of the terms of this Deed which that party is advised by its legal advisers is required to be disclosed. Such party will use its reasonable endeavours to obtain assurance that confidential treatment will be accorded to any information disclosed.

14.4 If any party discloses the terms of this Deed to a person within clause 14.2 (excluding in accordance with clause 14.2.5) that Party will use its reasonable endeavours to obtain assurances that any information relating to the terms of this Deed will be treated by that person as confidential.

**Delivered as a deed on the date of this document.**

**EXECUTION PAGE**

Executed as a deed by **EAST ANGLIA TWO LIMITED** acting by [redacted] .. *[name of first director]* and [redacted] *[name of second director or secretary]*

)
)
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[redacted]

[redacted]

Director/Secretary

Executed as a deed by **EAST ANGLIA THREE LIMITED** acting by [redacted] .. *[name of first director]* and [redacted] *[name of second director or secretary]*

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[redacted]

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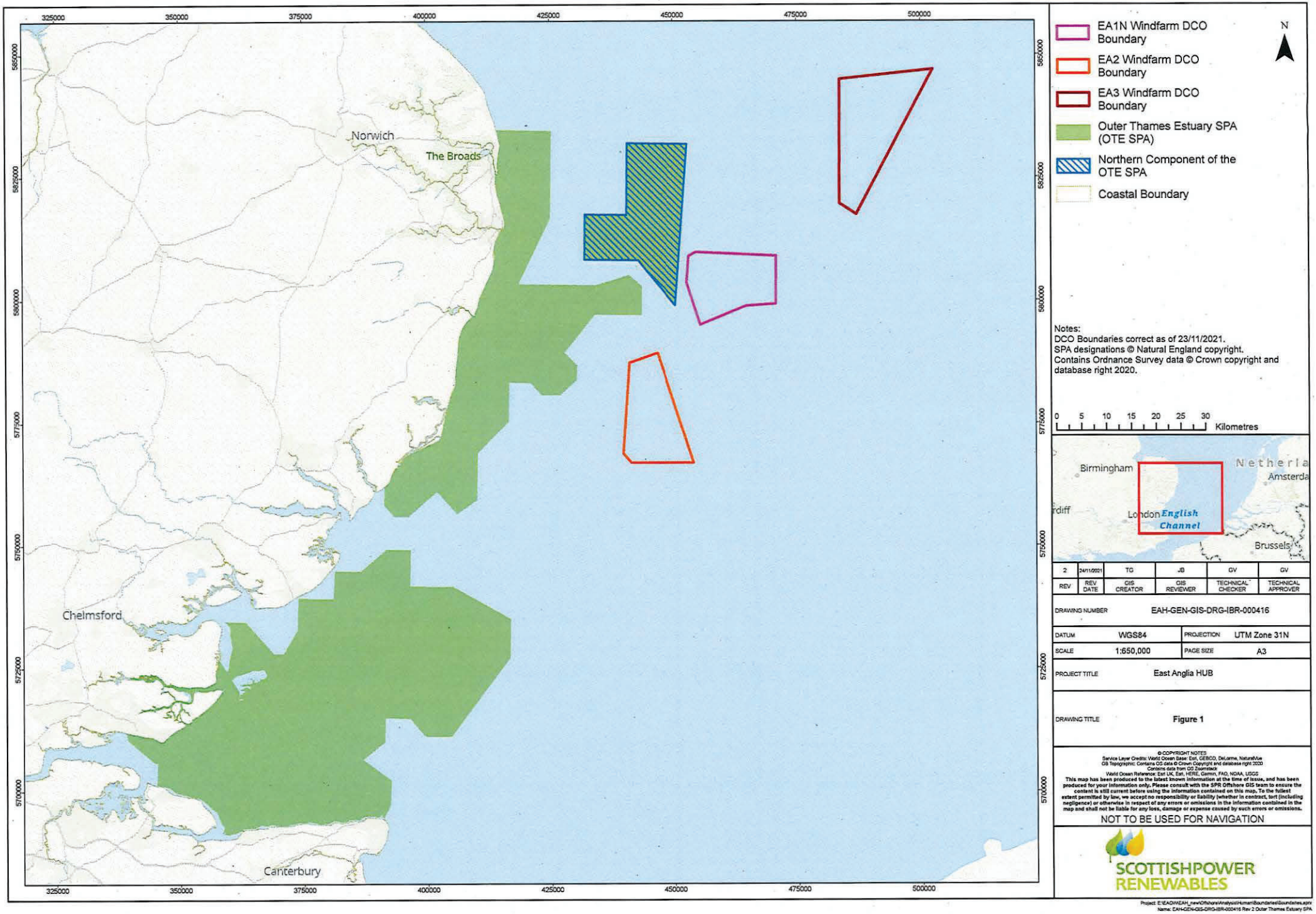
Director/Secretary

## Appendix 1

### Figure 1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Coastal Boundary
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Notes:
DCO Boundaries correct as of 23/11/2021.
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