



Hornsea Three Site Selection Narrative Report

 Orsted

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Author	NIRAS
Checked by	Eleni Antoniou (Orsted)
Approved by	Karma Leyland (Orsted)
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Acronyms

Acronym	Definition
AfL	Agreement for Lease
ANS	Artificial Nesting Structures
AON	Apparently Occupied Nests
BEIS	Department for Business, Energy and Industrial Strategy
BRAG	Black, Red, Amber, Green
DCO	Development Consent Order
EIA	Environmental Impact Assessment
FFC	Flamborough and Filey Coast
HAT	Highest Astronomical Tide
KCP	Kittiwake Compensation Plan
KIMP	Kittiwake Implementation & Monitoring Plan
LAT	Lowest Astronomical Tide
NDA	Nuclear Decommissioning Authority
OOEG	Offshore Ornithology Engagement Group
RSPB	Royal Society for the Protection of Birds
SoS	Secretary of State
SPA	Special Protected Area
SNCBs	Statutory Nature Conservation Bodies

Note: The information contained in this Site Selection Narrative Report should be handled in strict confidence with due consideration to commercial sensitivities. Mindful that the Secretary of State of the Department for Business, Energy and Industrial Strategy may require to potentially disclose the Site Selection Narrative Report to consultees, Orsted has redacted the text and tables that must be kept out of the public domain.

1 Background

- 1.1.1.1 A Development Consent Order (DCO) for the Hornsea Project Three Offshore Wind Farm (hereafter 'Hornsea Three') was awarded to Orsted Hornsea Project Three (UK) Limited (hereafter 'Orsted') on 31st December 2020. The Hornsea Three DCO includes a requirement to compensate for potential mortality from collision of adult kittiwake (black-legged kittiwake *Rissa tridactyla*) associated with the Flamborough and Filey Coast Special Protection Area (FFC SPA), with the operational turbines of Hornsea Three.
- 1.1.1.2 Within the documents submitted to the Secretary of State (SoS) in September 2020 (see Section 2 of the Kittiwake Implementation and Monitoring Plan (KIMP), document reference 07164814_A) it was proposed that increasing the productivity of the kittiwake population by constructing and maintaining four Artificial Nesting Structures (ANS) located along the English east coast would be an effective compensation measure. Two broad search zones were identified within these submissions (specifically Annex 3 (Site Selection and the Pathway to Securement¹) to the Kittiwake Compensation Plan (KCP)² along the coasts of East Anglia and North East England.
- 1.1.1.3 These initial search zones were chosen based on their ecological suitability and in accordance with the KCP (certified plan pursuant to Article 36 of the Hornsea Three DCO) and their likelihood for interchange of birds with the FFC SPA. Sections of coast within the search zones were selected which were likely to provide favourable conditions for new colonies, including:
- Sites which were in proximity (within 1 to 5 km) of existing kittiwake colonies with good productivity and increasing / stable population trends (indicative of favourable prey resources); and
 - Sites which had the potential for interchange of birds with the FFC SPA (<100 km) but were not close enough (< 56 km³) to create additional competition for the same food resources likely to be used by FFC SPA birds.
- 1.1.1.4 At the request of Statutory Nature Conservation Bodies (SNCBs) to diversify/spread risk over a number of ecologically distinct sites, areas beyond 100 km from FFC SPA, namely East Suffolk, were considered even though the likelihood of interchange with the FFC SPA population may be lower. It is important to note that East Suffolk is within the wider regional bio-geographic population range of kittiwake. The area was also highlighted at an early stage of the process as a location where natural nesting capacity was limited (see in Annex 2 to Appendix 2: Kittiwake Artificial Nest Provisioning: Ecological Evidence Report⁴).
- 1.1.1.5 Initial search zones were refined by focusing on sections of coast which were deemed the most ecologically favourable. Within these coastal areas, sites were then identified where an ANS could potentially be located. The proposed locations were presented to the Offshore Ornithology Engagement Group (OOEG) and appropriate sites to progress were agreed upon. This document details the site selection process undertaken to identify these sites. The

¹ [Response to the Secretary of State's Minded to Approve Letter - Annex 3 to Appendix 2: Kittiwake Artificial Nest Provisioning: Site Selection and the Pathway to Securement](#)

² [Kittiwake Compensation Plan](#), certified plan pursuant to Article 36 of the Hornsea Three DCO.

³ Mean maximum foraging range as stated by Woodward et. al, (2019).

⁴ [Annex 2 to Appendix 2: Kittiwake Artificial Nest Provisioning: Ecological Evidence](#)

ecological factors which were considered in the shortlisting of these sites are presented, and the progress of securing land for the construction of an ANS within these sites is documented.

2 Site Selection Criteria

2.1.1.1 Each section of the coast within the two search areas (East Anglia Zone and North East Zone) originally identified was assessed for suitability of locating ANS using digital aerial maps e.g. Google Earth, and local knowledge where available. These regional search zones were consulted on and agreed with SNCBs during the drafting of the KCP as part of SoS post-examination consultation (pre-decision).

2.2 Stage One

2.2.1.1 Stage one of the process identified coastal areas deemed to be unsuitable from an ecological perspective (red-listed, see [Figure 2.1](#)) if they met one or more of the following criteria:

Red-list criteria:

- Areas with unsuitable habitat over 50 m from tidal waters;
- Areas beyond 100 km from any existing kittiwake colony;
- Areas close to sites where existing colonies are in decline; and
- Areas near FFC, where kittiwake foraging range could potentially overlap with the foraging area of FFC birds (based on tracking data i.e. the core usage hotspots (50% utilisation distribution of FFC birds Cleasby *et al.* 2018), and areas beyond the mean foraging range of the species (55 km – Woodward *et al.* 2019)).

2.3 Stage Two

2.3.1.1 The criteria below were developed to rank the remaining areas in each zone on their suitability from an ecological perspective to support an ANS:

1. **Proximity to open coast (Critical)** - within <100 m of where site would have a direct view of the sea. With higher preference given to sites with frontage directly onto tidal waters, based on distance from Lowest Astronomical Tide (LAT).
2. **Close to the coast (as above) (Critical)** - but sites on tidal rivers to be considered where existing birds are known to nest or transit further upstream (<100 m from Highest Astronomical Tide (HAT) of tidal waters where kittiwake presence has been regularly documented).
3. **Proximity to existing small sub colonies (Critical)** - generally at <1 km i.e. within visible range but may be extended if passage of birds to/from an existing site is likely to cross the proposed site. With higher preference given to areas closer to expanding existing colonies as these are likely to provide the most immediately profitable solution.
4. **Protection from adverse weather conditions (To optimise success)** - with preference given to more sheltered areas, as overly exposed locations may be less favourable/successful once colonised.
5. **Avoidance of residential / busy tourist areas and roadside sites (To optimise success)** - to minimise disturbance and human conflicts.
6. **Avoiding proximity to existing nearshore offshore wind farms (To optimise success)** - Windfarms were considered within mean foraging range (as per Woodward *et al.* (2019)) of site and informed by likely routes birds would choose to travel in/out of colony i.e. following water channels.
7. **Preference towards a coastal area where structures could blend in with environments which kittiwake naturally occupy (To optimise success)** - (i.e. tall cliffs, quaysides, seafront buildings) over stand-alone structures in a currently unoccupied atypical environment (e.g. woodland, mud flats, sand dunes); i.e. avoiding standalone structure onshore in otherwise flat surroundings.

8. **Consideration for potential conflicts with other SPA/protected site species designations (To optimise success)** - e.g. a tall structure could overshadow wader roosting/feeding sites.
 9. **Preference away from habitat in retreat through coastal erosion (To optimise success)** - given required longevity of project.
- 2.3.1.2 A scoring system was assigned to each criterion in order to rank these coastal areas in order of most to least suitable; higher scores were allocated to locations which fully met all criteria, and points taken away if locations did not meet the criteria at all. The original scoring criteria were assigned giving equal weighting across all factors: +2 if the site met all criteria, +1 if the site met most of the criteria, 0 if the criteria could not be assessed or was unknown, -1 if the site partially met some of the criteria but key elements were missing, and -2 if the site met none of the criteria.
- 2.3.1.3 Within these coastal areas, 22 sites (A-R) were identified as 'preferred' along the east coast of England for the potential siting of a kittiwake ANS (see [Figure 2.2](#)). These sites were then presented to the OoEG on the 17th March 2021. Following this meeting, further discussions on the site selection process were requested by Natural England (advice note dated: 20 April 2021, reference: SLASLA/350299). Subsequently, additional revisions were made to the site selection criteria and the relative importance/weighting each criterion was given.
- 2.3.1.4 These amendments were as follows.
- Each criterion was classified as either critical or likely to optimise success (see [Section 2.2.1.1](#)). Critical features (points 1, 2 and 3) were then assigned a higher weighting (by doubling the scoring criteria) than features which were likely to enhance success (i.e. points 4 to 9). Natural England also suggested omitting point 4 and re-classified point 9 as critical.
 - Additional criteria were added with respect to optimising success, largely associated with fulfilling DCO requirements or increasing the probability of additionality, these were;
 - Does the area have a lack of natural nesting sites i.e. cliffs;
 - Whether additional man-made nesting sites may be available (at nearest neighbouring colony); and
 - The likelihood of exchange with FFC SPA population (i.e. is the site within 100 km of FFC SPA).
 - Sites which were included as potentially suitable in stage 1 (i.e. did not meet red-list criteria) but did not meet one or more of the critical criteria (points 1-3 above) were not considered further.

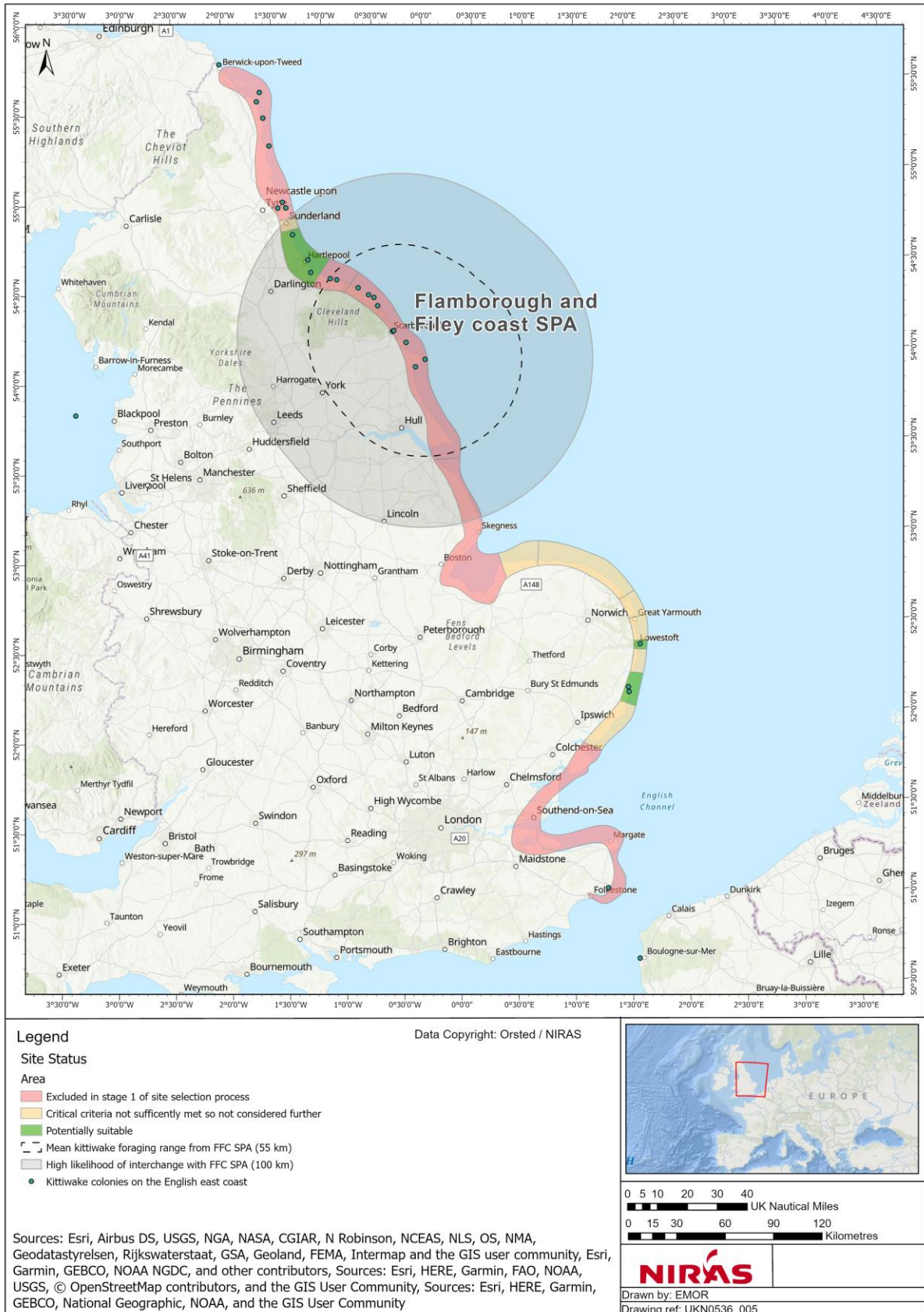


Figure 2.1 Site selection results for potential ANS locations.

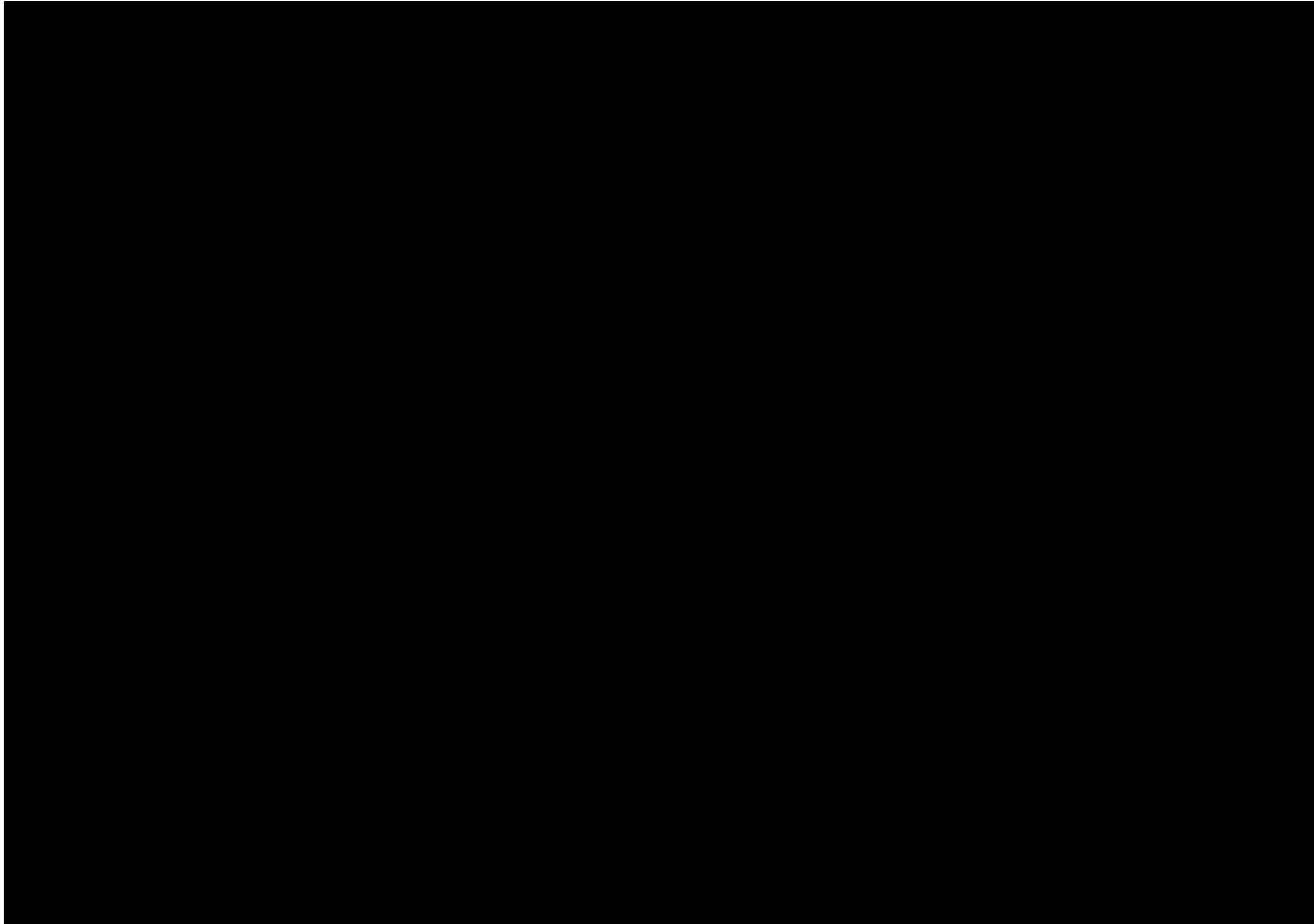


Figure 2.2

[Redacted text]

- CONFIDENTIAL & COMMERCIALY SENSITIVE

2.4 Stage Three

- 2.4.1.1 The 22 potential sites selected were ranked based on their ecological suitability score (see [Table 3.2](#) for details).
- 2.4.1.2 During the consultation process, Natural England devised an alternative scoring system to assess the suitability of areas along the east coast. There were some differences in the order of preference between Natural England and Orsted positions, however, there was broad agreement on the most favourable sites.
- 2.4.1.3 Orsted's land and property team gave initial high-level investigation to all sites, with more exhaustive investigations given to sites which were ecologically strongest site selection results.

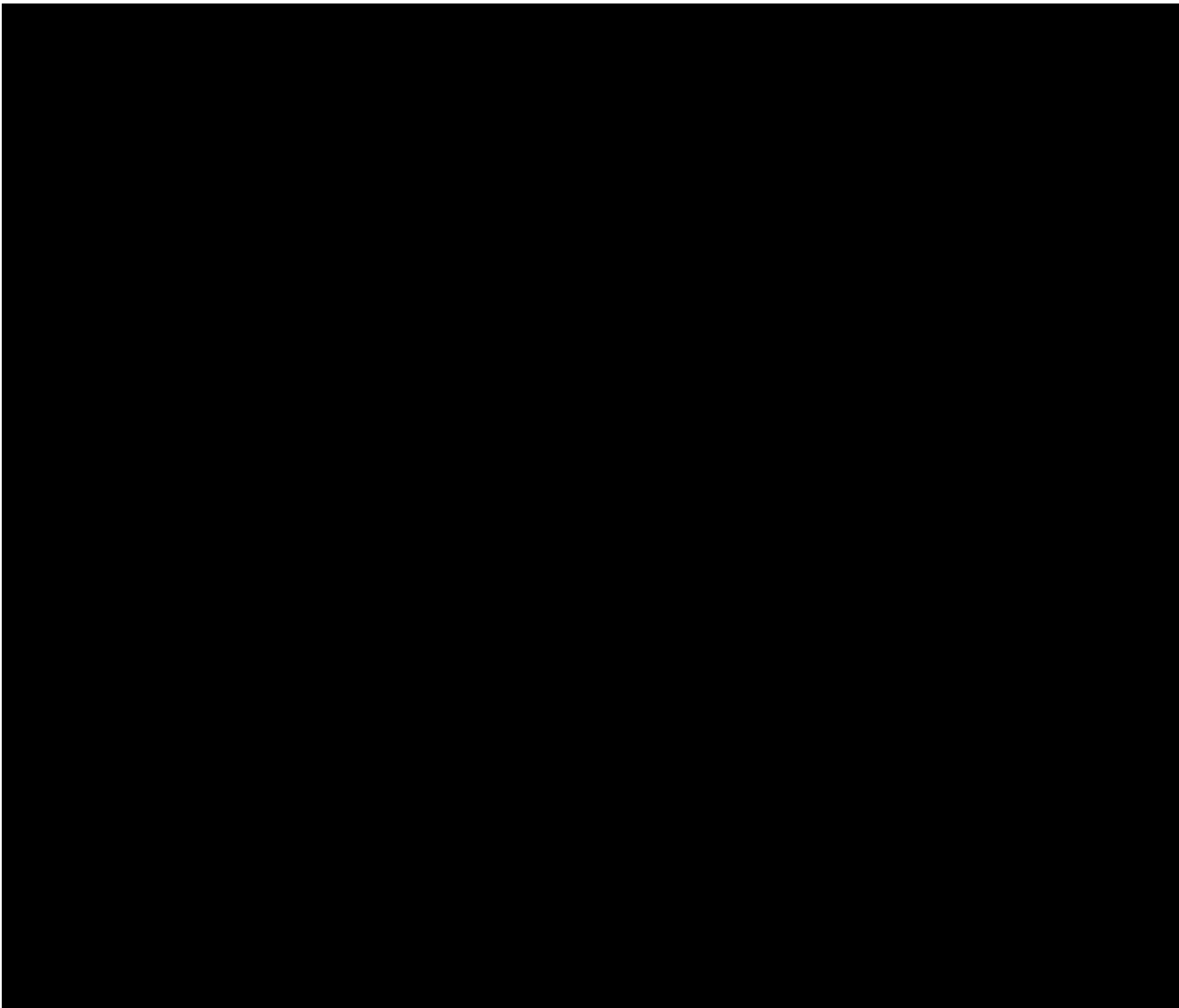
3 Site selection results

- 3.1.1.1 [Table 3.1](#) details the outcome of Stage 1 and Stage 2 of the site selection process along the English North Sea coast. Specific sites within the highest scoring preferred regions were identified and further refined based on feedback from landowners and local authorities (see [Table 3.2](#)).

Table 3.1. Regions considered for kittiwake ANS. Areas are listed from north to south along the English North Sea coastline.

Section of North Sea coastline	Status	Reasoning
North of R. Tyne	Excluded at stage 1	Too far north of FFC and populations thought to be more dependent on North Sea region.
Seaburn to R. Tyne (inc. Newcastle)	Excluded at stage 1	Concerns over distance from FFC and potential conflicts with existing ongoing mitigation measures with birds in the area. In addition, potential lack of additionality as existing ANS tower at Gateshead has low occupancy.
Sunderland to Ryhope	Discounted at stage 2	More distant (>5 km) from existing colonies whose status was known to be expanding at time of assessment.
Seaham to Redcar	PREFERRED REGION	Included as preferred site for further assessment.
Redcar to Staithes	Excluded at stage 1	Not considered due to existing colonies in decline.
Staithes to Grimsby	Excluded at stage 1	Not considered due to existing colonies in decline and proximity to FFC is within kittiwake mean foraging range.
Grimsby to the Wash	Excluded at stage 1	Not considered as potentially too close to FFC foraging areas - considering shape of coast and lack of suitable habitat.
The Wash to Great Yarmouth	Discounted at stage 2	Not within 100 km of FFC population and more distant than other potential sites from nearest existing colony.
Lowestoft to Pakefield	PREFERRED REGION	Included as preferred site for further assessment.
Kessingland to Southwold coast	Discounted at stage 2	Not within 100 km of FFC population and more distant than other potential sites from nearest existing colony.
Dunwich to Thorpeness	PREFERRED REGION	Included as preferred site for further assessment.
South of Thorpeness to the Thames Estuary	Excluded at stage 1	Not considered as beyond 100 km from any existing North Sea kittiwake colony.

Table 3.2. Sites within preferred areas identified as potentially suitable for an ANS - **CONFIDENTIAL & COMMERCIALY SENSITIVE**



4 Site refinement within each area – CONFIDENTIAL & COMMERCIALY SENSITIVE

4.1.1.1 [Redacted text block]

4.1.1.2 [Redacted text block]

Table 4.1 Results of BRAG exercise for each of the preferred ANS locations from different perspectives. [REDACTED]

[REDACTED]

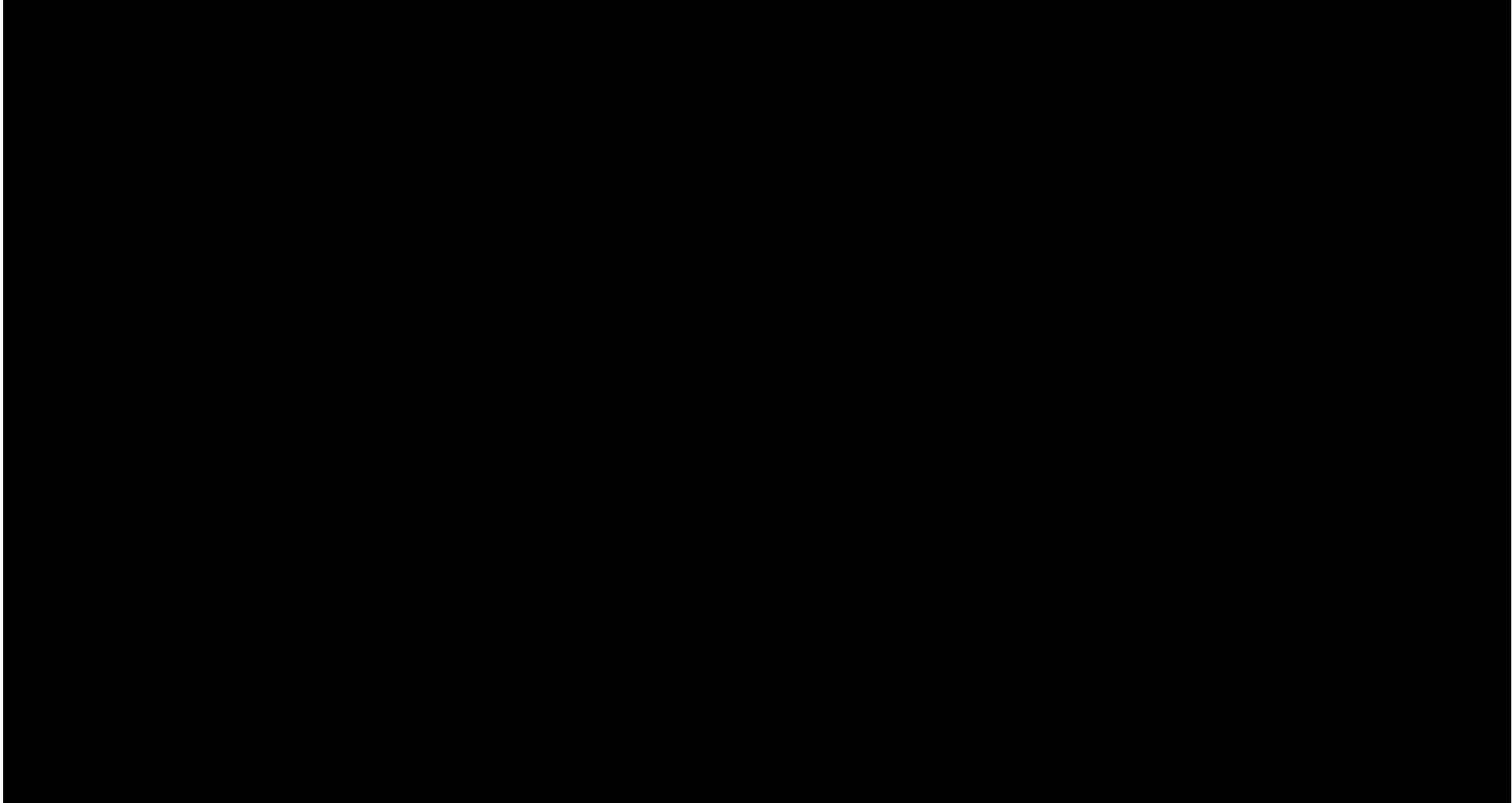
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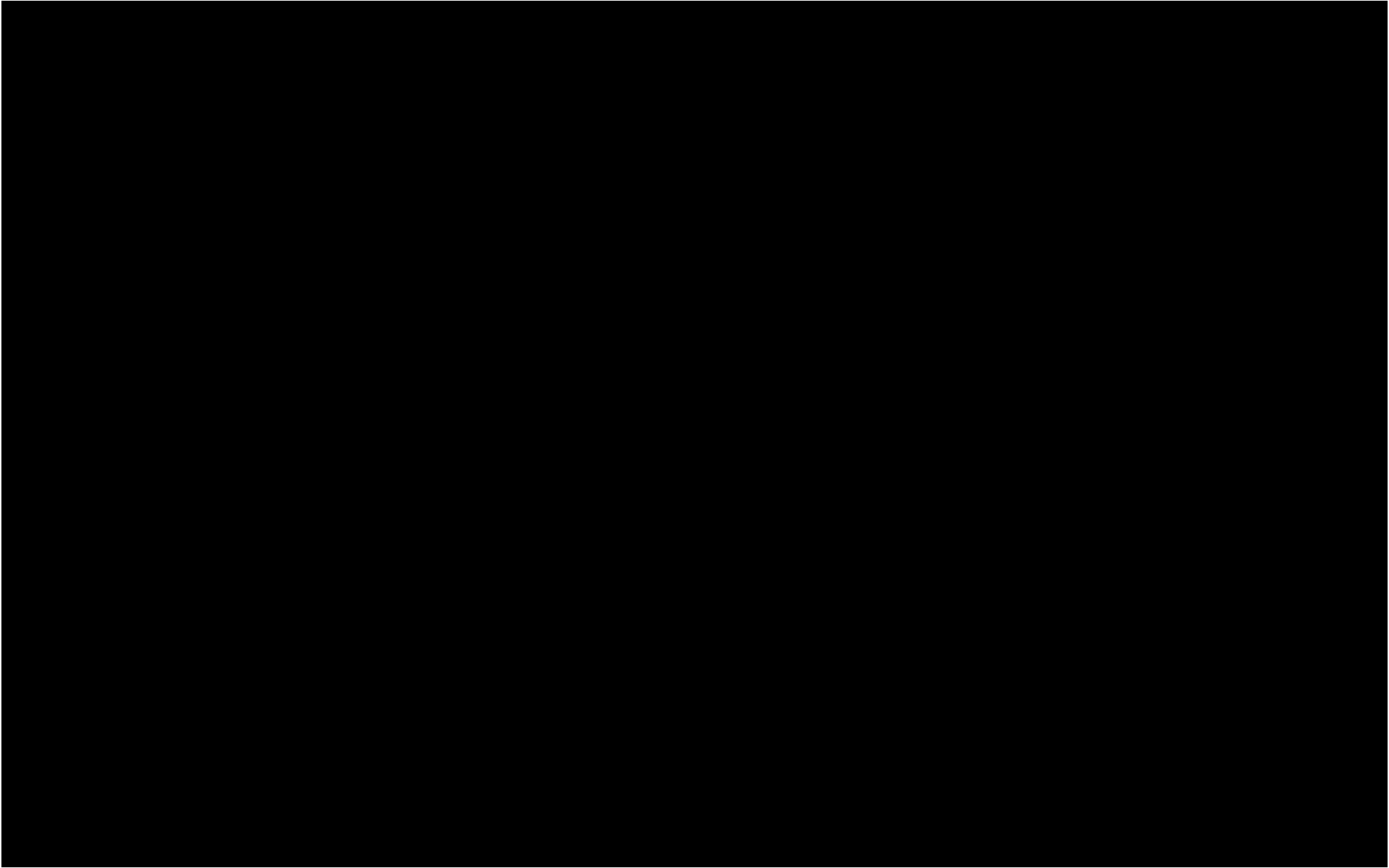
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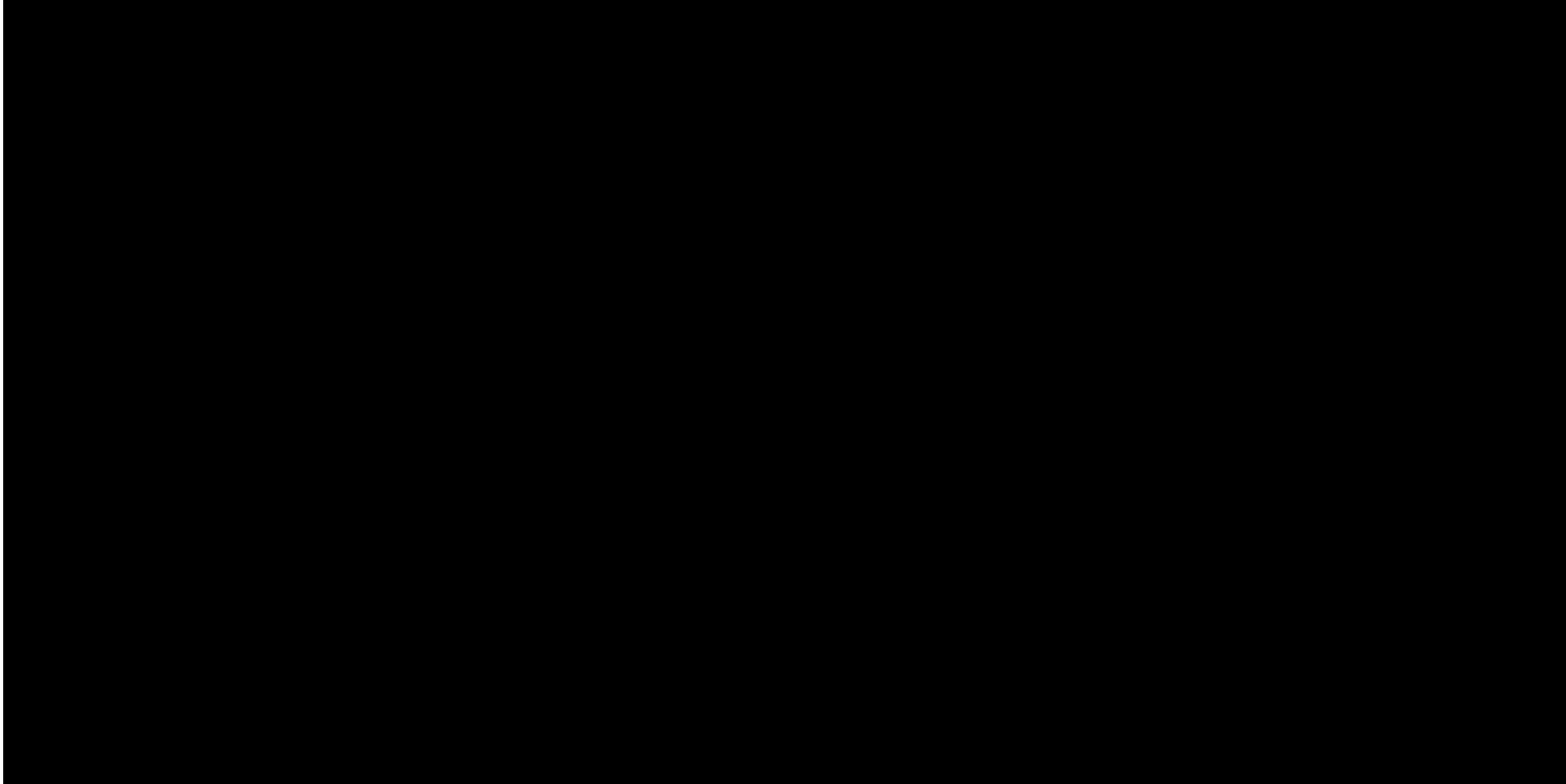
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5 Additional sites considered – CONFIDENTIAL & COMMERCIALY SENSITIVE

5.1.1.1 [Redacted]

5.1.1.2 [Redacted]

5.1.1.3 [Redacted]

5.1.1.4 [Redacted]

5.1.1.5 [Redacted]

- [Redacted]
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- [REDACTED]
- [REDACTED]

6 Final Site Selection

6.1.1.1 Following the extensive site selection process outlined in **Sections 2 to 5** of this report and the detailed stakeholder consultation undertaken, Orsted have selected 4 locations for the placement of ANS for kittiwake, each suitable for providing for one or more ANS to enable a total of four structures to be constructed as required by the DCO.

6.1.1.2 The sites described in **Sections 6.1.1 to 6.1.4** are the primary ANS locations being progressed. Further details, including location plans, are set out in Section 4.2 and Section 7 of the KIMP (document reference 07164814_A).

North East

6.1.1 Hartlepool – Old Yacht Club (onshore)

6.1.1.1 In December 2021, Orsted completed the purchase of the Old Hartlepool Yacht Club which lies in very close proximity (30 m) to an existing kittiwake colony which has high productivity, demonstrating its strong ecological suitability. During the 2022 breeding season, 177 apparently occupied nests (AON) were found at this existing colony (which occupies the walkway to the lifeboat pontoon), representing 51% of total occupied kittiwake nests in the Hartlepool Headland and port area (NIRAS, 2022).

6.1.1.2 The Old Hartlepool Yacht Club site comprises approximately 1 acre and is large enough to support more than one ANS. Therefore, given it is a strong site ecologically and a preferred location by the OoEG (agreed during technical panels #4 (07/07/2021) and #6 (29/09/2021)), it is proposed that up to two ANS will be located at this site.

6.1.1.3 A planning application was submitted to Hartlepool Borough Council on 15/12/2021. This was validated on 27/01/2022 (reference H/2022/0009). Following the statutory and public consultation period, Orsted responded to comments and worked closely with Hartlepool Borough Council to resolve outstanding areas of concern. This resulted in a positive decision in Hartlepool Borough Council planning officer's report⁵ which concluded "*the proposal in the context of relevant planning policies and material planning considerations is acceptable*" and recommended approval. However, during the planning committee meeting on 22/06/2022, four local councillors voted in favour of the application and seven voted against the application, which meant that planning permission was refused, due to concerns with regards to noise, visuals, and use of land allocated for employment. Orsted submitted an appeal to the Planning Inspectorate on 18/10/2022 (reference APP/H0724/W/22/3309272). Subject to the appeal programme, a decision is expected in Q1-Q2 2023.

⁵ Available in the public domain here: https://www.hartlepool.gov.uk/meetings/meeting/4296/planning_committee (see Section 4.1)

6.1.2 [REDACTED] – CONFIDENTIAL & COMMERCIALY SENSITIVE

6.1.2.1 [REDACTED]

6.1.2.2 [REDACTED]

6.1.2.1 [REDACTED]

East Anglia

6.1.3 Lowestoft (nearshore)

6.1.3.1 It is proposed that up to two ANS will be located in the nearshore environment from the coastline of Lowestoft. Orsted have an AfL in place with The Crown Estate for this location which gives Orsted the right to exercise the option to call upon the Crown Estate to grant a lease.

6.1.3.2 This location is a strong site ecologically due to its proximity to the existing kittiwake colonies within the town of Lowestoft; the population here is growing and productivity is high (NIRAS, 2022). It was agreed as a preferred location with the OoEG during technical panel meeting #3 on 27/05/2021 and steering group meeting #4 on 13/04/2022.

6.1.3.3 A marine licence application (MLA/2022/00287) was submitted to the MMO on 06/07/2022 for the construction, operation and maintenance of up to two ANS for kittiwake within this area. This was followed by a statutory and public consultation period which closed on 22/08/2022 and 31/08/2022 respectively. The MMO's HRA (dated 09/11/2022) concluded that the proposed project would not have an adverse effect on the integrity on designated sites, either alone or in-combination with other plans of projects. Orsted are holding regular meetings with the MMO and the marine licence is expected to be granted in Q4 2022.

6.1.4 Minsmere (nearshore)

6.1.4.1 It is proposed that one ANS will be located in the nearshore environment from the coastline of the RSPB Minsmere Nature Reserve. Orsted have an AfL in place with The Crown Estate for this location which gives Orsted the right to exercise the option to call upon the Crown Estate to grant a lease.

6.1.4.2 This location is a strong site ecologically due to its proximity to the existing kittiwake colonies on the inflow and outflow rigs associated with the Sizewell A power station. The kittiwake population here is stable and thought to be space limited with high annual productivity rates. It is noted that a sufficient distance has been maintained from existing assets and planned future work areas following discussions with nearby infrastructure owners. During the 2022 breeding season, an estimated 182 AON were recorded across the two rigs (NIRAS, 2022). In Technical Panels #5 (18/08/2021), #7 (10/11/2021) and #8 (15/12/2021) the OoEG favoured this location, particularly welcoming a marine structure, and agreed it is strong ecologically.

6.1.4.3 A marine licence application (MLA/2022/00333) was submitted to the MMO on 02/08/2022 for the construction, operation and maintenance of one ANS for kittiwake within this area. This was followed by a statutory and public consultation period which closed on 29/09/2022 and 30/09/2022 respectively. The MMO's HRA (dated 31/10/2022) concluded that the proposed project would not have an adverse effect on the integrity on designated sites, either alone or in-combination with other plans of projects. Orsted are holding regular meetings with the MMO and the marine licence is expected to be granted in Q4 2022.

7 Summary and consideration of final site locations

- 7.1.1.1 It is proposed that ANS will be implemented across the locations presented in **Sections 6.1.1 to 6.1.4**, with the exact distribution subject to consenting. Within the North East search area, up to two ANS will be constructed on land purchased at the site of the Old Hartlepool Yacht Club and/or up to two ANS will be constructed within the [REDACTED]. Within the East Anglia search area, up to two ANS will be constructed within the Lowestoft nearshore area and/or one ANS will be constructed within the Minsmere nearshore area. The onshore ANS will be based on two different typologies with a third design for the marine structures.

8 References

Cleasby IR, Owen E, Wilson LJ, Bolton M (2018) Combining habitat modelling and hotspot analysis to reveal the location of high density seabird areas across the UK: Technical Report. RSPB Research Report no. 63. RSPB Centre for Conservation Science, RSPB, The Lodge, Sandy, Bedfordshire.

NIRAS (2022) Annual Monitoring Report of Onshore Kittiwake colonies 2022. Report to Ørsted Wind Power A/S. NIRAS (UK) Group Ltd., Cambridge.

Woodward, I., Thaxter, C.B., Owen, E. & Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO research report number 72.