NORTH FALLS

Offshore Wind Farm

HABITATS REGULATIONS ASSESSMENT

Lesser Black-backed Gull Compensation - Gedgrave Marshes Impact Assessment

Document Reference:	9.84
Volume:	9
Date:	May 2025
Revision:	0

Project Reference: EN010119

NORTH FALLS
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Project	North Falls Offshore Wind Farm
Document Title	Habitats Regulations Assessment; Lesser Black-backed Gull Compensation - Gedgrave Marshes Impact Assessment
Document Reference	9.84
Supplier	Royal HaskoningDHV
Supplier Document ID	PB9244-RHD-ZZ-OF-RP-OF-0386

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Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
0	May 2025	Deadline 5	RHDHV	NFOW	NFOW

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Glossary of Acronyms

AEoI	Adverse Effect on Integrity
AOE	Alde-Ore Estuary
DCO	Development Consent Order
Defra	Department for Environment, Food & Rural Affairs
DEP	Dudgeon Extension project
DESNZ	Department of Energy Security and Net Zero
EA1N	East Anglia ONE North
EA2	East Anglia TWO
GLVIA	Guidelines for Landscape and Visual Assessment'
HRA	Habitats regulations Assessment
INNS	Invasive Non-Native Species
km	Kilometre
LBBG	Lesser Black-back Gull
LCT	Landscape Character Type
NB	Norfolk Boreas
NFOW	North Falls Offshore Wind Farm
NNR	National Nature Reserve
NV	Norfolk Vanguard
OWF	Offshore wind farm
PRoW	Public Right of Way
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
RWE	Renewables UK Swindon Limited
SAC	Special Area of Conservation
SECHNL	Suffolk and Essex Coast and Heaths National Landscape
SHC	Suffolk Heritage Coast
SoS	Secretary of State
SPA	Special Protection Area
SSER	SSE Renewables Offshore Windfarm Holdings Limited
SSSI	Site of Special Scientific Interest
UK	United Kingdom

Glossary of Terminology

Habitats Regulations	Refers to both the Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017
The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The Project Or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.

1 Introduction

1.1 Background

1. The North Falls Offshore Wind Farm (hereafter 'North Falls' or 'the Project') is located approximately 40km off the East Anglian coast in England. When operational, North Falls would have the potential to generate renewable power for approximately 400,000 UK homes from up to 57 wind turbines.
2. The Applicant, North Falls Offshore Wind Farm Ltd (NFOW), is a joint venture between SSE Renewables Offshore Windfarm Holdings Limited (SSER) and RWE Renewables UK Swindon Limited (RWE), both of which are highly experienced developers.
3. As part of the Development Consent Order (DCO) application, the Applicant must provide information to support the Habitats Regulations Assessment (HRA) to be completed by the Competent Authority, the Secretary of State for the Department for Energy Security and Net Zero (DESNZ).

1.2 Purpose of document

4. This document considers the likely significant effects of proposed Lesser Black-back Gull (LBBG) compensation on designated sites and their features, should the Gedgrave Marshes option be selected for North Falls.
5. Gedgrave Marshes is being considered for Project-led compensation for North Falls. Other options which continue to be considered for Project-led compensation include Lantern Marshes and Outer Trial Bank.
6. An assessment of the compensation at Lantern Marshes is provided in Lesser Black-backed Gull Compensation Effects on Designated Sites **[REP4-010]**.
7. Should an alternative site be taken forward, the associated effects will be assessed in accordance with the screening provided in Section 10 of the Lesser Black-Backed Gull Compensation Document [**REP1-017/018**].
8. The detailed design of the compensatory measure will be developed post consent, in accordance with the Outline LBBG Compensation Implementation and Monitoring Plan [**REP1-019**]. The assessment will be refined post consent to inform a Planning Application under the Town and Country Planning Act. This approach is consistent with other consented offshore wind farms including Dudgeon and Sheringham Shoal Extension Projects, Norfolk Vanguard, Norfolk Boreas, East Anglia ONE North and East Anglia TWO.
9. The proposed compensation is described in the Lesser Black-Backed Gull Compensation Document [**REP1-017/018**] and the Lesser Black-backed Gull Outline Compensation Implementation and Monitoring Plan [**REP1-019/020**].

1.3 Proposed Compensation

1.3.1 Location

10. Gedgrave Marshes has been identified as an area potentially suitable for breeding by LBBG in the vicinity of Orford, Suffolk (see Figure 1). The proposed compensation area within Gedgrave Marshes is c. 500m from Havergate Island, across the River Ore. Havergate Island hosts the main breeding colony of LBBG of the Alde Ore Estuary (AOE) Special Protection Area (SPA).

11. A preliminary ecological survey was undertaken in November 2024. The habitat of the proposed compensation area is primarily ungrazed grassland (previously grazed). The surrounding fields are predominantly agricultural fields consisting of cattle-grazed pasture with other land uses including reservoirs with solar power generation, woodland and game cover.

12. There is an existing flood embankment c. 400m east of the proposed compensation area. During the 2024 survey, there was no evidence of any saline vegetation (e.g. saltmarsh species) on top of the flood embankment or within the potential compensation area suggesting that there have not been any recent flooding events in the proposed compensation area. The final site selection and detailed design of the compensatory measure will take into account future flood risk (see mitigation in Section 2.8).

13. North of the proposed compensation area is Gedgrave Estate which is composed of a number of buildings and cottages. Access to the proposed compensation area is likely to be via Gedgrave Road and through the estate.

14. Existing public rights of way (PRoW) are present to the north east and north west, c 550m from the compensation site. In addition, an unofficial path continues along the bank of the River Ore, c. 250m from the compensation site. This path is due to be adopted as part of the King Charles III England Coast Path.

15. The Applicant understands a potential wader management area is being considered on Gedgrave Marshes. The area identified for potential wader management is adjacent to the proposed compensation area at Gedgrave Marshes (see Figure 1). The Applicant has discussed the potential co-existence of both schemes at Gedgrave Marshes with the Royal Society for the Protection of Birds (RSPB) and the selection of the proposed compensation area shown in Figure 1 takes on board the RSPB feedback that whilst the proposed compensation and wader areas can be adjacent to each other, the compensation area should be set back from the path along the river.

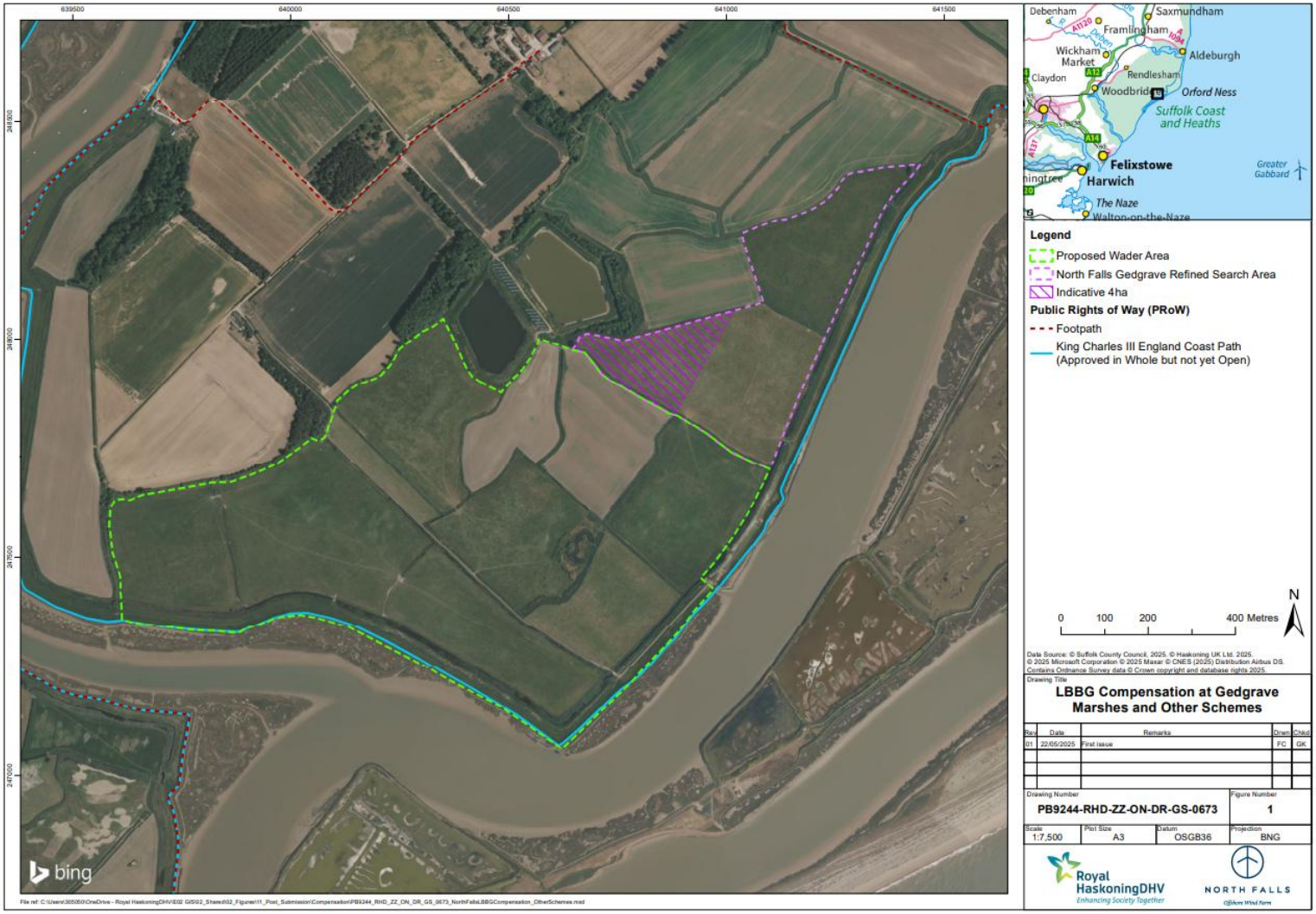

Figure 1 Potential LBBG compensation area, Gedgrave Marshes

1.3.2 Compensatory Measure

16. The compensatory measure at Gedrave Marshes will include:

- Predator-proof fencing to aid colonisation efforts by LBBG into a 'safe' area;
- Habitat management - planting, grassland cutting and/or scrub clearance to create optimal ground cover and sward height; and
- Measures to encourage birds to investigate and settle in the fenced area, such as placement of decoy birds and/or playback of colony calls.

2 Compensation Description

17. The detailed design of the fence, construction methods, maintenance and decommissioning would be developed post consent, informed by site surveys and further assessed to inform a post consent planning application.

18. Lessons learned from nearby existing compensation for the Norfolk Vanguard (NV), Norfolk Boreas (NB) and East Anglia ONE North and TWO (EA1N/2) offshore wind farms will be considered during planning of the compensatory measure.

19. The following sections provide an outline of a realistic worst case scenario.

2.1 Design

2.1.1 Area

20. As discussed in Section 5 of the Lesser Black-Backed Gull Compensation Document [**REP1-017/018**], an area of 4 hectares (ha) is proposed to provide an ecologically effective measure for LBBG (see Figure 1).

2.1.2 Fence

21. The antipredator fence would have the following key characteristics:

- Up to 958m length
- High Tensile stock wire with 50mm vertical spacing
- 1.8m finished height (c. 2.9m post length with c.1.1m post penetration into the ground)
- 50-100mm deep and 750-1,000mm wide section scraped to enable burial of fence skirt.
- Post spacing c. 3-4m
- One or two 12ft wide fully meshed galvanised gates on steel posts with a steel frame. Gate posts and base of the frame would be concreted in.

2.1.3 Habitat management

22. It is expected that habitat management will be undertaken within the enclosure during the non-breeding season on an annual basis. This will take the form of

cutting and removing areas of vegetation to create a patchwork of short and long sward heights which will increase the amount of habitat suitable for lesser black-backed gulls to nest. This is expected to be undertaken using handheld strimming equipment.

2.2 Timing

23. Where practicable, the fence would be installed and maintenance works carried out in an appropriate period between September and January (inclusive) to avoid the breeding season for LBBG, and other potential ornithological receptors, subject to their presence within a relevant buffer of the compensation area (Section 2.8), confirmed during pre-construction surveys.

24. Construction would take approximately 2 months to complete, including contingency for weather downtime.

2.3 Access

25. The fencing materials and plant would be transported to Gedgrave Marshes via Gedgrave Road. Indicative plant requirements include:

- 8 tonne excavator;
- Tracked post knocker;
- Tracked dumper;
- Tractor and loader and trailer;
- Quad bike; and
- Pick-up truck.

2.4 Pre-construction

26. Pre-construction surveys, including Invasive Non-Native Species (INNS) will be undertaken to inform the final design of the compensatory measure.

2.5 Construction

27. A welfare unit will be temporarily placed on site during the construction works.

28. Debris on the fence line will be cleared where required and the top 50-100mm of topsoil along the alignment of the fencing would be scraped back, creating a 750-1,000mm wide corridor of exposed soil.

29. Tubular steel fence posts, 2.9m long, would be pushed into the ground at approximately 3-4m intervals, leaving a height of 1.8m above ground.

30. The mesh fencing would then be rolled out and clipped to each fence post. A 600mm skirt of the mesh fencing would be folded into the shallow strip that was scraped. The skirt would then be pegged into place, and the previously removed topsoil reinstated on top of the skirt.

2.6 Operation and Maintenance

31. Annual habitat management will be undertaken as described in Section 2.1.3.

32. The fence will be maintained for the lifetime of the Project compensation requirements (at least 33 years).

33. Planned maintenance would be undertaken outside the breeding season. During the breeding season, regular inspections of the fence would be undertaken and if required, emergency repairs would be undertaken to ensure the integrity of the fence is maintained to avoid predator incursion.

34. As a worst case scenario, it is assumed a full replacement of the fence may be required after c. 20 years, noting the potential for corrosion. This would be discussed with the Lesser Black-Backed Gull Compensation Steering Group ahead of any works commencing.

2.7 Decommissioning

35. Decommissioning would be a reverse of the construction process. Alternatively, consideration would be given to leaving the fence in situ, subject to a survey of its condition and willingness of an appropriate party to take over maintenance.

2.8 Mitigation

36. The following mitigation will be undertaken:

- The fence line avoids areas of predicted erosion up to 2105 (Department for Environment, Food and Rural Affairs (Defra), 2024a) and this will be checked for any updates pre-construction;
- The fence line will be surveyed for existing invasive non-native plant species in advance of the works. Any found will be removed and appropriately disposed of;
- All machinery, materials and equipment to be brought onto site will be cleaned and checked for the presence of INNS and mud;
- Construction of the fence, planned maintenance and habitat management to take place outside nesting seasons of any birds found to be present within a relevant buffer (species dependant based on Goodman & Furness, 2022 or other relevant literature) of the compensation area to avoid causing significant disturbance;
- Speed limits for vehicles associated with construction and management/maintenance; and
- Regular checks of fence line for damage and debris. Repairs and clearance to be undertaken as required.

3 Ecological Designated Sites

3.1 Ecological Study Area

37. Given the small-scale nature of the works, the zone of influence of likely significant effects on ecological receptors will consider designated sites within 1km for which Gedgrave Marshes could provide functionally linked land. This includes the following designated sites for nature conservation:

- AOE Special Protection Area (SPA);
- AOE Ramsar site;
- AOE Site of Special Scientific Interest (SSSI); and
- Orfordness-Havergate National Nature Reserve (NNR).

38. Note that the proposed compensation area does not overlap any of the designated sites listed above.

39. Other designations within 1km of the proposed compensation area at Gedgrave Marshes include:

- Gedgrave Hall Pit SSSI designated for geological importance; and
- Orfordness Shingle Street SAC designated for coastal lagoons, stony banks, and annual vegetation of drift lines.

40. However, there is no pathway for the compensation area at Gedgrave Marshes to have indirect effects on these sites and features, therefore these sites are screened out and not considered further.

3.2 Existing Environment

3.2.1 Alde-Ore Estuary SPA

41. The AOE SPA, located on the Suffolk coast between Aldeburgh and Bawdsey, includes Havergate Island, Orford Ness, and the estuaries of the Alde, Butley, and Ore rivers. The site features Atlantic salt meadows, intertidal mudflats, shingle, coastal lagoons, and estuarine fish communities. Bird usage varies seasonally, with different areas used for nesting and feeding (Natural England, n.d. (a)).

42. Key feeding habitats for SPA qualifying species (Table 3.1) include intertidal mudflats in the Upper Alde Estuary. Lagoons and saltmarshes provide additional feeding grounds. The site also offers nesting habitats, with shingle areas around Orford Ness and saltmarshes at Havergate Island, Orford Ness, and along the Butley and Alde rivers (Natural England, n.d. (a)).

3.2.1.1 Designated features

Table 3.1 Designated features of the Alde-Ore Estuary SPA. Source: (Natural England, n.d. (a))

Feature	Life Stage	Conservation Status
Avocet, *Recurvirostra avosetta*	Breeding (Mar – Aug) Non-breeding (Sept – Mar)	Not Available
Lesser black-backed gull, *Larus fuscus*	Breeding (Apr – Aug)	
Little tern, *Sterna albifrons*	Breeding (Apr – Aug)	
Marsh Harrier, *Circus aeruginosus*	Breeding (Mar – Oct)	
Redshank, *Tringa totanus*	Non-breeding (Sept – Mar)	
Ruff, *Philomachus pugnax*	Non-breeding (Oct – Mar)	
Sandwich tern, *Thalasseus sandvicensis*	Breeding (Apr – Aug)	

3.2.1.2 Conservation Objectives

43. The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The populations of each of the qualifying features; and
- The distribution of qualifying features within the site.

3.2.2 Alde-Ore Estuary Ramsar site

44. The site includes the estuary complex of the rivers Alde, Butley, and Ore, along with Havergate Island and Orfordness. It features diverse habitats such as intertidal mudflats, saltmarsh, vegetated shingle, saline lagoons, and grazing marsh. The Orfordness/Shingle Street landform is unique in Britain, combining a shingle spit with a cuspate foreland. The site supports nationally scarce plants, British Red Data Book invertebrates, and notable assemblages of breeding and wintering wetland birds.

45. The site was designated as a Ramsar site for meeting the following criteria:

- **Criterion 2:** Supports nationally scarce plant species and British Red Data Book invertebrates.
- **Criterion 3:** Supports notable assemblages of breeding and wintering wetland birds.
- **Criterion 6:** Hosts species/populations at levels of international importance.

46. Additionally, notable plant and invertebrate species recognised at the site include:

- **Plants**: A range of nationally scarce plants including: marsh mallow *Althaea officinalis,* sea heath *Frankenia laevis,* beach pea *Lathyrus japonicus,* perennial pepperweed *Lepidium latifolium,* bur medick *Medicago minima,* coast barbgrass *Parapholis incurva,* Borrer's saltmarsh grass *Puccinellia fasciculata,* spiral tasselweed *Ruppia cirrhosa,* perennial glasswort *Sarcocornia perennis,* marsh sowthistle *Sonchus palustris,* suffocated *clover Trifolium suffocatum,* yellow vetch *Vicia lutea* and narrow-leaved eelgrass *Zostera angustifolia*.
- **Invertebrates**: The highly specialised invertebrate fauna of the saline lagoons includes starlet sea anemone *Nematostella vectensis*, and lagoon sand shrimp *Gammarus insensibilis*, both species protected under Schedules 5 and 8 of the Wildlife and Countryside Act 1981 (as amended). Other notable invertebrates on the site include: the ground lackey moth *Malacosoma castrensis*, fancy-legged fly *Campsicnemus magius*, chinless blacklet hoverfly *Cheilosia velutina, Empis prodomus* (species of dance fly)*, Dixella attica* (species of meniscus midge)*,* shingle yellow-face bee *Hylaeus euryscapus* swollen spire snail *Pseudamnicola confusa,* whelk-

shell jumper spider *Pseudeuophrys obsoleta* (previously described as *Euophrys browningi),* Duffey's bell-headed spider *Baryphyma duffeyi, Haplodrassus minor* (species of ground spider), *Trichoncus affinis* (species of sheet weaver spider) (JNCC, 2008).

3.2.2.1 Designated features

Table 3.2 Designated features of the Alde-Ore Estuary Ramsar site. Source: (Natural England, n.d. (b))

Feature	Life Stage	Conservation status
Avocet	Wintering	Not Available
Lesser black-backed gull	Breeding	
Redshank	Wintering	
Waterbird assemblage	Wintering	
Wetland bird assemblage	Breeding	
Wetland invertebrate assemblage	-	
Wetland plant assemblage	-	

3.2.2.2 Conservation Objectives

47. For Ramsar sites, a decision has been made by Defra and Natural England not to produce Conservation Advice packages (Natural England n.d.(c)) instead focussing on those provided for the SPA (Section 3.2.1).

3.2.3 Alde-Ore Estuary SSSI

48. Table 3.3 summarises the designated features of the AOE SSSI.

Table 3.3 Designated features of the Alde-Ore Estuary SSSI. Source:(Natural England, n.d. (e))

Feature	Species/ habitat	Condition Status
Aggregations of breeding birds	Avocet	Not Recorded
	Black-headed gull, *Larus ridibundus*	Not Recorded
	Herring gull, *Larus argentatus*	Not Recorded
	Lesser black-backed gull	Not Recorded
	Little tern	Not Recorded
	Marsh harrier	Not Recorded
	Sandwich tern	Not Recorded
	Shoveler, *Anas clypeata*	Favourable
Assemblages of breeding birds	Lowland damp grasslands	Not Recorded
	Mixed	Not Recorded
	Variety of species	Not Recorded
Aggregations of non-breeding birds	Avocet	Favourable
	Bewick's swan, *Cygnus columbianus bewickii*	Unfavourable
	Redshank,	Favourable
	Ruff,	Unfavourable
	Shelduck, *Tadorna tadorna*	Favourable
	Teal, *Anas crecca*	Favourable

Feature	Species/ habitat	Condition Status
	Wigeon, *Anas penelope*	Favourable
Geography and Geology	EC - Neogene	Favourable
	Estuaries	Not Recorded
	Hard maritime cliff and slope	Favourable
	IA - Coastal Geomorphology	Favourable
Invertebrate assemblage	F1 unshaded early successional mosaic	Unfavourable
	M1 rocky shore	Favourable
	M311 saltmarsh and transitional brackish marsh	Favourable
	Littoral sediment	Not Recorded
Habitat and Other	Population of Schedule 5 sea anemone – *Nematostella vectensis*, Starlet Sea Anemone	Not Recorded
	Saline coastal lagoons	Favourable
	SM4-28 - Saltmarsh	Not Recorded
	Vascular plant assemblage	Not Recorded

3.2.4 Orfordness-Havergate NNR

49. The Orfordness-Havergate NNR is a significant shingle spit located just south of Aldeburgh on the Suffolk coast, separated from the mainland by the River Alde. The features of the reserve are captured by the AOE SPA, Ramsar, and SSSI and therefore this site is not discussed further in this document specifically but effects are as assessed for other sites.

3.3 Ecological Effects of Proposed Compensatory Measure

3.3.1 Pathway for Impacts

50. The following potential impacts are assessed for each site:

- Temporary disturbance during construction, operation and maintenance, and decommissioning;
- Spread of INNS during construction, operation and maintenance, and decommissioning; and
- Predation of other species by LBBG.

51. Consideration has been given to a Site Improvement Plan (Natural England, 2014) which covers the AOE SPA (Table 3.4).

Table 3.4 Site Improvement Plan Pressures

Pressure/ Threat	Screened in	Rationale for screening out
Hydrological changes	No	Hydrology of protected features will not be influenced by the LBBG compensation.
Public Access/Disturbance	Yes	Disturbance of relevant features is assessed in Section 3.3.2.

Pressure/ Threat	Screened in	Rationale for screening out
		In addition, cumulative disturbance effect associated with a proposed public right of way is assessed in Section 3.3.3.
Inappropriate coastal management	No	Coastal management will not be influenced. Predicted coastal changes in relation to climate resilience have been considered during design of fence line and will be considered further pre-construction (Section 2.8).
Changes in species distributions	No	Compensation aims to increase LBBG numbers. This is compatible with restoration objective and therefore not an adverse effect.
Invasive species	Yes	Spread of invasive species is assessed in Section 3.3.2.
Air Pollution: impact of atmospheric nitrogen deposition	No	No pathway for effect
Fisheries: Commercial marine and estuarine	No	No pathway for effect

3.3.2 Shadow Appropriate Assessment

3.3.2.1 Alde Ore Estuary SPA and Ramsar

3.3.2.1.1 Temporary disturbance during construction, operation and maintenance and decommissioning

52. Temporary disturbance on the receptors of the SPA and Ramsar during construction could arise from:

- Vehicle use around the perimeter of Gedgrave Marshes;
- Increased activity for c. 2 months during the period September to January;
- Installation of fence; and
- Habitat management e.g. strimming.

53. Fence construction and planned maintenance would not occur within the AOE SPA and Ramsar. However, due to the close proximity, temporary disturbance to the features of the SPA and Ramsar are considered.

3.3.2.1.1.1 Breeding birds

54. The proposed compensation area on Gedgrave Marshes is c. 300m from the AOE SPA and Ramsar boundary, and within land which is already subject to farming activity. Due to the short term and localised nature of the works, the construction, operation and maintenance, and decommissioning of the compensatory measure is not predicted to cause disturbance to birds breeding within the SPA and Ramsar.

55. Therefore, there would be no adverse effect on the integrity (AEoI) of the AOE SPA and Ramsar in relation to breeding birds, as a result of temporary disturbance.

3.3.2.1.1.2 Non-breeding birds/Waterbird assemblage

56. Non-breeding birds from the AOE SPA and Ramsar, include avocet, redshank and ruff. These birds forage in shallow water, including estuaries, lagoons and

mudflats, as well as on grassland (RSPB, n.d (a); RSPB, n.d (b); RSPB, n.d (c)).

57. Activity associated with construction, maintenance (including potential replacement) and decommissioning of the fence could result in displacement of non-breeding birds from functionally linked land associated with the AOE SPA and Ramsar. As discussed in Section 2, an area of 4ha would be required for the compensation site and the duration of construction and decommissioning works would be c. 2 months. Maintenance works would be of shorter duration, with the exception of a potential fence replacement which would take a similar duration to construction and may be required once during the life of the project.

58. During the non-breeding season, waders may exhibit a disturbance response within 200-300m (based on redshank (Goodship and Furness, 2022)), giving a maximum area of displacement of c. 64ha. In the context of the wider area of Gedgrave Marshes (c. 300ha) as well as the AOE SPA and Ramsar (2403.5ha), alternative foraging habitat would be available for birds potentially displaced from the compensation site for short periods.

59. Given the small scale and temporary nature of the works required to deliver the compensation, there would be no AEoI on conservation objectives to maintain or restore populations and distribution of non-breeding birds and the waterbird assemblage.

3.3.2.1.2 Spread of INNS and pathogens during construction, operation and maintenance and decommissioning

60. As discussed in Section 2.8, all machinery, materials and equipment to be brought onto site will be cleaned and checked for the presence of INNS and mud to avoid the spread of INNS and pathogens.

61. The fence line will be surveyed for existing invasive non-native species in advance of the works. Any found will be removed and appropriately disposed of.

62. With this mitigation, there will be no AEoI as a result of INNS and pathogens due to the compensatory measure.

3.3.2.1.3 Predation of other birds by LBBG

63. LBBG have potential to prey on chicks of other breeding birds within the SPA and Ramsar, e.g. avocet, little terns, marsh harrier and sandwich tern.

64. Table 3.5 shows the numbers of pairs of qualifying breeding species of the SPA. At the time of classification of the SPA, all species had higher numbers than the updated counts. This demonstrates that the range of breeding bird species protected by the SPA and Ramsar can co-exist with LBBG.

Table 3.5 Breeding bird no.s of the AOE SPA (source: Natural England, n.d. (a))

Qualifying breeding species	SPA population at classification (pairs)	SPA population updated (pairs)
Avocet	104	46 (mean of 2010-13)
Lesser black-backed gull	14,070	1940 (mean of 2011-15)
Little tern	48	4 (2013)
Marsh harrier	3	3 (2013)
Sandwich tern	170	0 (2009)

65. As the aim for the North Falls compensation is to support c. 50-75 breeding pairs (LBBG Compensation document [**REP1-017/18**], the effects of predation by LBBG would not exceed that of the original SPA population and therefore there would be no AEoI on conservation objectives to maintain or restore populations and distribution of breeding birds.

3.3.2.1.4 Conclusion

66. There will be no AEOI on the AOE SPA and Ramsar as a result of the North Falls LBBG compensatory measure.

3.3.3 Effects on Alde-Ore Estuary SSSI

3.3.3.1.1 Temporary disturbance

3.3.3.1.1.1 Aggregations and assemblages of breeding birds

67. The proposed compensation area on Gedgrave Marshes is c. 300m from the AOE SSSI boundary, and within land which is already subject to farming activity. As discussed in Section 3.3.2.1.1.1, due to the short term and localised nature of the works, the construction, operation and maintenance, and decommissioning of the compensatory measure is not predicted to cause disturbance to birds breeding within the SSSI.

3.3.3.1.1.2 Aggregations of non-breeding birds

68. Non-breeding birds from the AOE SSSI include avocet, Bewick's swan, redshank, ruff, shelduck, teal and wigeon. These birds forage in shallow water, including estuaries, lagoons and mudflats, as well as on grassland (RSPB, n.d (a); RSPB, n.d (d)) RSPB, n.d (b); RSPB, n.d (c); RSPB, n.d (e); RSPB, n.d (f); RSPB, n.d (g))

69. Activity associated with construction, maintenance (including potential replacement) and decommissioning of the fence could result in displacement of non-breeding birds from functionally linked land associated with the AOE SPA and Ramsar. As discussed in Section 2, an area of 4ha would be required for the compensation site and the duration of construction and decommissioning works would be c. 2 months. Maintenance works would be of shorter duration, with the exception of a potential fence replacement which would take a similar duration to construction and maybe required once during the life of the project.

70. During the non-breeding season, waders may exhibit a disturbance response within 200-600m (as a worst case scenario based on Whooper swan as a proxy for Bewick's swan (Goodship and Furness, 2022)), giving a maximum area of displacement of c. 190ha. In the context of the wider area of Gedgrave Marshes (c. 300ha) as well as the AOE SPA and Ramsar (2403.5ha), alternative foraging habitat would be available for birds potentially displaced from the compensation site for short periods.

3.3.3.1.2 Spread of INNS and pathogens during construction, maintenance and decommissioning

71. All machinery, materials and equipment to be brought onto site will be clean and checked for the presence of INNS and mud (which could contain INNS and pathogens).

72. The fence line will be surveyed for existing invasive non-native plant species in advance of the works. Any found will be removed and appropriately disposed of. Detailed measures will be set out in the LBBG Compensation Implementation and Monitoring Plan.

73. With this mitigation, there will be no significant effect as a result of INNS and pathogens as a result of the compensatory measure.

3.3.3.1.3 Predation of other birds by LBBG

74. As discussed in Section 3.3.2.1.3, while LBBG have potential to prey on chicks of other breeding birds within the SSSI, there is clear evidence that these species can co-exist with LBBG.

75. The aim for the North Falls compensation is to support c. 50-75 breeding pairs (LBBG Compensation document [**REP1-017/18**], and the latest SPA count is 1,940. In the context of the original number of LBBG pairs of 14,070, the effects of predation by LBBG as a result of the North Falls LBBG compensation would not exceed that of the original SPA population and therefore there would be no AEoI on conservation objectives to maintain or restore populations and distribution of breeding birds.

3.3.3.1.4 Conclusion

76. There will be no significant effect on the Alde Ore Estuary SSSI as a result of the North Falls LBBG compensatory measure.

3.3.4 In-combination/ Cumulative Ecological Effects

77. As discussed in Section 1.3.1, there is a planned extension to the PRoW in proximity to Gedgrave Marshes. An unofficial path along the bank of the River Ore, c. 250m from the compensation site, has been approved to form part of the King Charles III England Coast Path but is not yet officially open. While the path may attract additional visitors, there is already an existing unofficial path along the river in this area and therefore any cumulative effect associated with the opening of the official PRoW will be minimal compared to existing usage and therefore there will no AEoI of the AOE SPA and Ramsar and no significant effects on the AOE SSSI.

4 Landscape and Visual Appraisal

78. The following section provides a landscape and visual appraisal of the anti-predator fencing described in Section 2.1.2. A 1km radius study area is considered to be sufficient for a project of this nature.

79. The appraisal has been caried out in accordance with the principles contained in the 'Guidelines for Landscape and Visual Assessment' (GLVIA) 2013, Version 3. The appraisal considers the susceptibility and value of receiving landscape and visual receptors and the nature of effect (including the scale and geographical extent of change) associated with the proposed fencing. Effects are then judged to be of 'greater' or 'lesser' importance. Where effects are considered to be of greater importance, these will have more bearing in the decision-making process.

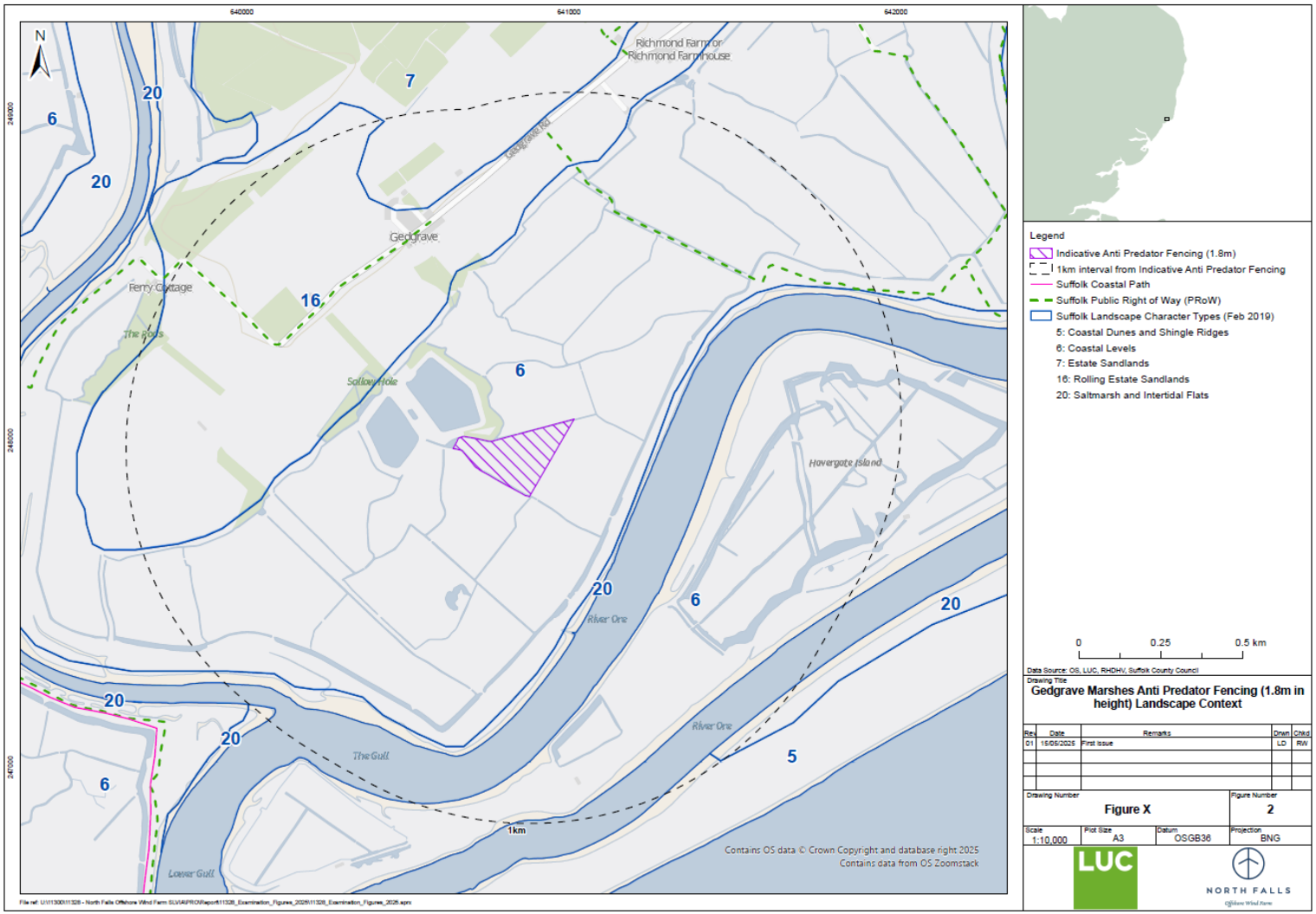

Figure 2 Gedgrave Marshes Anti Predator Fencing Landscape Context

4.1 Landscape and Visual Context

80. The Site of the proposed 1.8m high anti-predator fencing (the Proposed Development) is located on Gedgrave Marshes, to the north of the River Ore and east of the Butley River, south-west of the settlement of Orford in Suffolk (see Figure 1). Whilst there is no promoted access to the Site itself, access around the local area is available via Gedgrave Road, to the north, and the surrounding PRoW network (mapped on Figure 2). The Suffolk Coastal Path also passes to the west of the Site, along the western bank of the Butley River, 1.2km away at its closest point.

81. Given its coastal location, the Site is very flat and lies at just above sea level. There are man made bunds to the south-east of the Site, along the western banks of the River Ore, and around two small reservoirs to the immediate west of the Site. Landcover across the Site is reclaimed farmland, mainly used for arable purposes, subdivided by a dyke system. There is a solar array between the two reservoirs, to the west of the Site, and a farmstead at Gedgrave Road to the north-west. There are some areas of woodland on the higher ground to the north-west of the Site, but the rest of the study area is very open.

82. The Site is contained within the 'Coastal Levels' Landscape Character Type (LCT), as defined in the Suffolk Landscape Character Assessment. The key characteristics of this LCT are as follows:

83. Coastal Levels (6) LCT[1]

- "Flat marshland adjacent to the coast or estuaries.
- Marine alluvium soils.
- Sinuous and complex mediaeval dyke networks.
- Uniform 19th century dyke networks.
- Cattle-grazed wet grassland.
- Widespread modification for arable production.
- Small plantations and carr woodlands.
- Inland side of rising ground often wooded.
- Important wildlife conservation areas.
- Unsettled landscape with domestic buildings on the fringes.
- Derelict wind pump."

84. The Site is within the Suffolk and Essex Coast and Heaths National Landscape (SECHNL) and the Suffolk Heritage Coast (SHC). The special qualities of the

[1] Coastal levels - Suffolk Landscapes

SECHNL are listed in the Natural Beauty and Special Qualities Indicators document.[2] The special qualities recognise the:

"Close-knit interrelationship of semi-natural and cultural landscapes (notably sea, coast, estuaries, reedbeds, Sandlings heath, forest, farmland and market towns) and built heritage features (such as Martello towers, pill boxes, river walls), creating a juxtaposition of elements in a relatively small area."

85. There are no defined 'special qualities' for the SHC. The special character of the SHC can be understood with reference to landscape character assessments and the qualities of the SECHNL.

86. In terms of the visual context, views for residential receptors at Gedgrave Hall (farm to north of the Site) will largely be screened by intervening woodland.

87. In terms of recreational receptors, there is no promoted access to or across the Site. A PRoW runs along Gedgrave Road, approximately 600m to the north-west of the Site. A further PRoW runs south-east, from Gedgrave Road, then follows the western bank of the River Ore just over 600m to the north-east of the Site. Given the flat and relatively open nature of the landscape, views from these footpaths, looking south-east and south-west towards the Site are available. Hedgerows alongside the footpaths and intervening woodland (particularly in views from the footpath along Gedgrave Road) will provide a degree of screening. The proposed route of the King Charles III Coastal Path will follow the northern bank of the River Ore, to the south of the Site. There will be open views north, from sections of this path, once adopted. The Suffolk Coastal Path follows the western bank of the Butley River, beyond 1km to the west of the Site.

4.2 Potential Landscape Effects

88. There will be some direct effects associated with vegetation clearance and the installation of the anti-predator fence. These effects will be very local in extent and given the nature of the vegetation (arable farmland), landcover will recover quickly. Given the flat nature of the Site the need for any earthworks/ ground regrading will be very limited.

89. In terms of wider effects on landscape character, the fence will introduce a further human feature into the landscape. However, this is a modified landscape and fencing will typically be seen in the context of other features and characteristics associated with farming (field boundaries/ crop rotation etc). The fence structure is also permeable in nature so any views (along with associated influence on landscape character) will quickly reduce within a short distance. Hedgerows and areas of vegetation, including woodland around the two reservoirs and to the south of Gedgrave Road, will also limit the influence of the fencing to a small area.

2 LDA Design (2016) Natural Beauty and Special Qualities of the Suffolk Coast and Heaths AONB. Available at [https://coastandheaths-nl.org.uk/wp-content/uploads/2021/01/Natural-Beauty-and-Special-Qualities-of-the-Suffolk-Coast-and-Heaths-2016.pdf]

90. In summary, the Proposed Development is located in a landscape where human influence is apparent through farming, and the landscape is more able to accommodate a feature of this nature (the landscape is of lower susceptibility to the type of development proposed). The higher value is recognised through the NL designation.

91. Direct effects on landscape fabric will be limited and local in extent, as will wider effects on landscape character (and effects on the SECHNL and SHC). These landscape effects are judged to be of lesser importance (not significant in the context of any Environmental Impact Assessment). There will be no notable effects on the special qualities of the SECHNL (or SHC).

4.3 Potential Visual Effects

92. Given the lack of public access to the Site, the opportunity for close range views, for recreational receptors, is limited. From parts of the PRoW to the north-west (along Gedgrave Road) and north-east of the Site, there will be views towards the proposed fencing. In views from the north-west, vegetation around the reservoirs and to the south of Gedgrave Road will break up and screen views of the proposed fencing. The proposed route of the King Charles III Coastal Path will follow the northern bank of the River Ore, to the south of the Site. There will be open views north, from sections of this path, once adopted. When visible, the proposed fencing will typically be seen in the context of other features associated with farming (field boundaries/ crop rotation etc) and will not look out of context. The fence structure is also permeable in nature so the scale of change in the view will be small.

93. Views from the Suffolk Coastal Path, which follows the western bank of the Butley River will be longer distance (over 1km) and seen in the farmed context to the east of the river. At this increased distance and in this context, the fencing will represent a very small scale change in the view.

94. In summary, the Proposed Development is located in an area with limited public access. Any views for (medium to higher susceptibility) recreational receptors from PRoW, will be small in scale of change and local in extent. Visual effects are judged to be of lesser importance (not significant in the context of any Environmental Impact Assessment).

4.4 Potential Cumulative Effects

95. There is no other existing or proposed anti predator fencing in the area. When visible, the proposed fencing will be seen in the context of an agricultural landscape, where field boundaries and fencing are more in keeping.

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