HABITATS REGULATIONS ASSESSMENT FOR AN APPLICATION UNDER THE PLANNING ACT 2008

A46 Newark Bypass

1 October 2025

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1. INTRODUCTION

Background

1.1. This document ("the HRA Report") is a record of the Habitats Regulations Assessment ("HRA") that the Secretary of State for Transport has undertaken under regulation 63 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations") in respect of the proposed Development Consent Order ("DCO"), for the 'A46 Newark Bypass' ("the Proposed Development"). The HRA Report includes an Appropriate Assessment ("AA") for the purposes of regulation 63 of the Habitats Regulations.

1.2. The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the amendments were taken into account in the preparation of this HRA Report. Reference to the Habitats Regulations in this HRA Report are therefore to the latest amended version, unless otherwise stated.

1.3. National Highways ("the Applicant") submitted an application for development consent ("the Application") to the Planning Inspectorate ("the Inspectorate") which was received in full on 26 April 2024. The Application was made under section 37 of the Planning Act 2008 ("2008 Act") and was accepted for Examination by the Inspectorate (under the delegated authority of the Secretary of State) on 23 May 2024 [ER 1.1.1 – 1.1.2]. The Proposed Development to which the Application relates is described in more detail in Section 2 of this HRA Report.

1.4. The Proposed Development meets the definition of a Nationally Significant Infrastructure Project ("NSIP") as set out in sections 14(1)(h) and 22 of the 2008 Act [ER 1.1.3].

1.5. The Examination began on 8 October 2024 and concluded on 8 April 2025 [ER 1.4.3].

1.6. The Examining Authority ("ExA") submitted the report of the Examination ("the Recommendation Report"), including its recommendation to the Secretary of State for Transport on 1 July 2025.

1.7. The Secretary of State's conclusions in relation to European sites have been informed by the Recommendation Report, documents and representations submitted during the Examination, late representations and responses to the Secretary of State's requests for comments and further information issued on 21 July and 15 August 2025, insofar as these have any bearing on the effects of the Proposed Development on European sites.

Habitats Regulations Assessment ("HRA")

1.8. The Habitats Regulations provide for the designation of sites for the protection of certain species and habitats. These are collectively termed 'European sites' and form part of a network of protected sites across the UK known as the "National Site Network".

1.9. The UK Government is also a signatory to the Convention on Wetlands of International Importance 1972 ("the Ramsar Convention"). The Ramsar Convention provides for the listing of wetlands of international importance. UK Government policy is to give sites listed under this convention ("Ramsar sites") the same protection as sites in the National Site Network[1].

1.10. For the purposes of this HRA Report, in line with the Habitats Regulations and relevant Government policy, the term 'European sites' includes SAC, candidate SAC, possible SAC, SPAs, potential SPAs, Sites of Community Importance, listed and proposed Ramsar sites and sites identified or required as compensatory measures for adverse effects on any of these sites [ER 4.1.4].

1.11. Regulation 63(1) of the Habitats Regulations requires that:

> "*(1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which-*
>
> *(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and*
>
> *(b) is not directly connected with or necessary to the management of that site,*
>
> *must make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives…*"

1.12. The Proposed Development is not connected with or necessary to the management of any European sites. Accordingly, the Secretary of State for Transport, as the competent authority for the purposes of Transport NSIPs under the 2008 Act, has undertaken an assessment in line with the requirements of the Habitats Regulations. This HRA Report (Sections 1 to 5) is the record of the AA for the purposes of regulation 63 of the Habitats Regulations.

The Report on the Implications for European Sites (RIES) and consultation with the appropriate nature conservation body

1.13. The ExA, with support from the Inspectorate's Environmental Services Team, produced a Report on the Implications for European Sites ("the RIES") [PD-010]. The purpose of the RIES was to compile, document and signpost information submitted by the Applicant and Interested Parties ("IPs") during the Examination up to and including Deadline 4 of the Examination (13 December 2024). The RIES was issued to set out the ExA's understanding on HRA-relevant information and the position of IPs, including Natural England ("NE"), in relation to the effects of the Proposed Development on European sites at that point in time. The consultation on the RIES ran between 14 January 2025 and 4 February 2025. The Applicant, NE and the Environment Agency ("EA") submitted their comments on the RIES at Deadline 5 (4

[1] Paragraph 194 of the National Planning Policy Framework, December 2024.

February 2025) and these comments were taken into account in producing the ExA's HRA assessment [ER 4.1.7].

1.14. Regulation 63(3) of the Habitats Regulations requires competent authorities (in this case the Secretary of State), if they undertake an AA, to consult the appropriate nature conservation body and have regard to any representations made by that body. In this case, the appropriate nature conservation body is NE and the Secretary of State is satisfied that NE has been formally consulted on Habitats Regulations matters during the Examination. The Statement of Common Ground between the Applicant and NE [REP7-094] confirmed that all matters relating to HRA were agreed between the two parties.

1.15. The ExA's recommendation is that the RIES, and consultation on it, may be relied upon as an appropriate body of information to enable the Secretary of State to fulfil their duties of consultation under regulation 63(3) of the Habitats Regulations, should the Secretary of State wish to do so [ER 4.1.8].

Changes to the Application during Examination

1.16. There were no formal change requests submitted by the Applicant. Changes to key application documents were submitted and updated during the Examination [ER 1.5.1 – 1.5.2]. The changes sought to address points raised by IPs and the ExA and to update or provide additional information resulting from changes and discussions that had occurred during the Examination. The Application Document Tracker, the final version of which was submitted at Deadline 8 (3 April 2025 [REP8-016]), provides a full record of all documents submitted. The Secretary of State is content that the changes would make no material difference to the outcome of the Environmental Statement ("ES") and HRA conclusions.

Documents referred to in this HRA Report

1.17. This HRA Report has taken account of and should be read in conjunction with the documents produced as part of the Application and the Examination, available on the Inspectorate's website.

1.18. The Applicant submitted a version of the HRA ("the Applicant's HRA Report") with the DCO application [APP-185]. The Applicant's HRA Report was updated at Deadline 3 (26 November 2024, DL3 HRA Report) [REP3-024] in response to matters raised by NE and the EA. Another updated version of the Applicant's HRA Report was provided at Deadline 5 (4 February 2025) [REP5-075] following further consultation with NE and publication of the RIES. All references in this Report to the Applicant's HRA Report are to this version unless stated otherwise [ER 4.1.11 – 4.1.12].

Structure of this HRA Report

1.19. The remainder of this HRA Report is presented as follows:

- Section 2 provides a general description of the Proposed Development.
- Section 3 describes the location of the Proposed Development and its relationship with European sites.

- Section 4 identifies the European sites and qualifying features subject to likely significant effects, alone or in-combination with other plans or projects (HRA Stage 1).

- Section 5 considers adverse effects on the integrity of European sites, alone or in-combination with other plans or projects and summarises the Secretary of State's appropriate assessment (HRA Stage 2).

- Section 6 summarises the Secretary of State's conclusion in respect of HRA Stages 1 and 2.

2. DEVELOPMENT DESCRIPTION

2.1. The Proposed Development is described in detail in the Applicant's Case for the Scheme dated 25 March 2025 [REP7-074] which is summarised in the ExA Report at ER 1.3.3 as follows:

- The Proposed Development comprises on-line widening of the A46 for the majority of its length between Farndon Roundabout and the A1. A new section of off-line dual carriageway would be provided between the western and eastern sides of the A1 before the new dual carriageway ties into the existing A46 to the west of Winthorpe Roundabout. The widening works include earthwork widening along the existing embankments, and new structures where the route crosses the Nottingham to Lincoln and East Coast Main Line ("ECML") railway lines, the River Trent, the Brownhills Link and the A1.

Chapter 2 of the ES states the main construction works are anticipated to last 3.5 years [2.6.14].

2.2. The likely significant effects ("LSE") on European sites associated with the construction, and operation of the Proposed Development are addressed in Section 4 of this HRA Report.

3. LOCATION OF THE PROPOSED DEVELOPMENT AND RELATIONSHIP WITH EUROPEAN SITES

Location and existing land use

3.1. The Proposed Development is located within the administrative boundaries of Newark and Sherwood District Council and Nottinghamshire County Council [ER 1.3.1]

3.2. Chapters 2 and 7 of the ES provide a detailed description of the surrounding area, which is also summarised by the ExA at ER 1.3.2. The characteristics of the surrounding area include:

- The current road is single carriageway and generally elevated on embankment due to the low-lying alluvial floodplain of the nearby River Trent.
- The River Trent forms a strong natural influence within an otherwise manmade landscape.
- There is a mixed geology of river terrace Sand and Gravel in Newark-on-Trent, and Riverine Clay, Sands and Gravels to the west, overlying various Mudstone strata.
- Several roundabouts form key junctions along the existing A46, linking with a number of 'A' roads locally.
- The Nottingham to Lincoln railway line and ECML traverse the area, bringing further significant infrastructure to the landscape. The Nottingham to Lincoln line crosses the existing A46 twice, once at the southwestern extent of the Proposed Development and the second at the northeastern end of the Proposed Development. The ECML intersects the existing A46 once to the east of the British Sugar Factory.
- The existing A46 highway infrastructure is softened by roadside vegetation in places. Exceptions are the railway and watercourse crossings.
- To the north of the existing A46, farmland of irregular field patterns dominates, interspersed with small-scale settlement.
- To the south of the existing A46, the town of Newark-on-Trent forms a notable urban settlement. In the remainder of the report this urban settlement is referred to as "Newark".

European sites potentially affected by the Proposed Development

3.3. The Proposed Development is not directly connected with, or necessary to, the management of a European site [ER 4.1.10]. The Applicant did not identify any LSEs on non-UK European sites in European Economic Area States so only considered the potential for LSE on the following three UK European sites [REP5-075 and ER 4.1.14 - 4.1.15]:

- Humber Estuary SAC;
- Humber Estuary SPA; and
- Humber Estuary Ramsar site

3.4. A figure showing the European sites identified in the Applicant's assessment is provided in Appendix C of the Applicant's HRA Report and this is reproduced as Figure 1 below. Table 4.1 of the Applicant's HRA Report presents relevant designation criteria and the proximity of the sites to the Proposed Development and is summarised in Table 1 below.

Table 1: European sites screened into the Applicant's assessment

Name of European Site	Designation criteria	Distance from the Proposed Development

Humber Estuary SAC	Annex I habitats including estuaries (H1130) and mudflats and sandflats not covered by seawater at low tide (H1140) are the primary reason for selection of this site. Annex II fish species (river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus*) are a qualifying feature and the River Trent could be used by breeding and migrating lamprey.	53 kilometres directly between the Order Limits and the European Site and 75 kilometres via the channel of the River Trent.
Humber Estuary SPA	The site qualifies under article 4.2 of the Directive (2009/147/EC) as it is used regularly by over 20,000 waterbirds in any season. In the non-breeding season, the area regularly supports 153,934 individual waterbirds.	63 kilometres directly between the Order Limits and the European Site and 88 kilometres via the channel of the River Trent.
Humber Estuary Ramsar site	The site is a representative example of a near-natural estuary with the following component habitats: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons. Ramsar criterion 8: The Humber Estuary acts as an important migration route for both river lamprey and sea lamprey between coastal waters and their spawning areas. The River Trent could be used by breeding and migrating lamprey.	53 kilometres directly between the Order Limits and the site and 75 kilometres via the channel of the River Trent.

3.5. The Applicant's approach to identifying relevant European sites is explained in Section 3.3 of the Applicant's HRA Report. The approach included the identification of European sites in accordance with Design Manual for Roads and Bridges ("DMRB") guidance LA 115 and thus considered the following screening criteria:

- that the Proposed Development is within 2km of a European site or functionally linked land.
- that the Proposed Development is within 30km of a European site, where bats are noted as one of the qualifying interests.
- European sites within 200 metres of the air quality Affected Road Network ("ARN"). The ARN includes parts of the road network which are identified as likely to be affected by changes in air quality as a result of changes in traffic flows due to the Proposed Development. These comprise all roads that trigger the traffic screening criteria outlined in DMRB (LA 105).

- European sites that have surface water hydrological connectivity within 1 kilometre of the Proposed Development (DMRB, LA 113).

- European sites containing Groundwater Dependent Terrestrial Ecosystem which have groundwater hydrological and hydrogeological connectivity within 1 kilometre of the Proposed Development (DMRB, LA 113).

- Any known areas of habitat outside of European site boundaries, which play an important role in supporting the European site and its features of interest (functionally linked land).

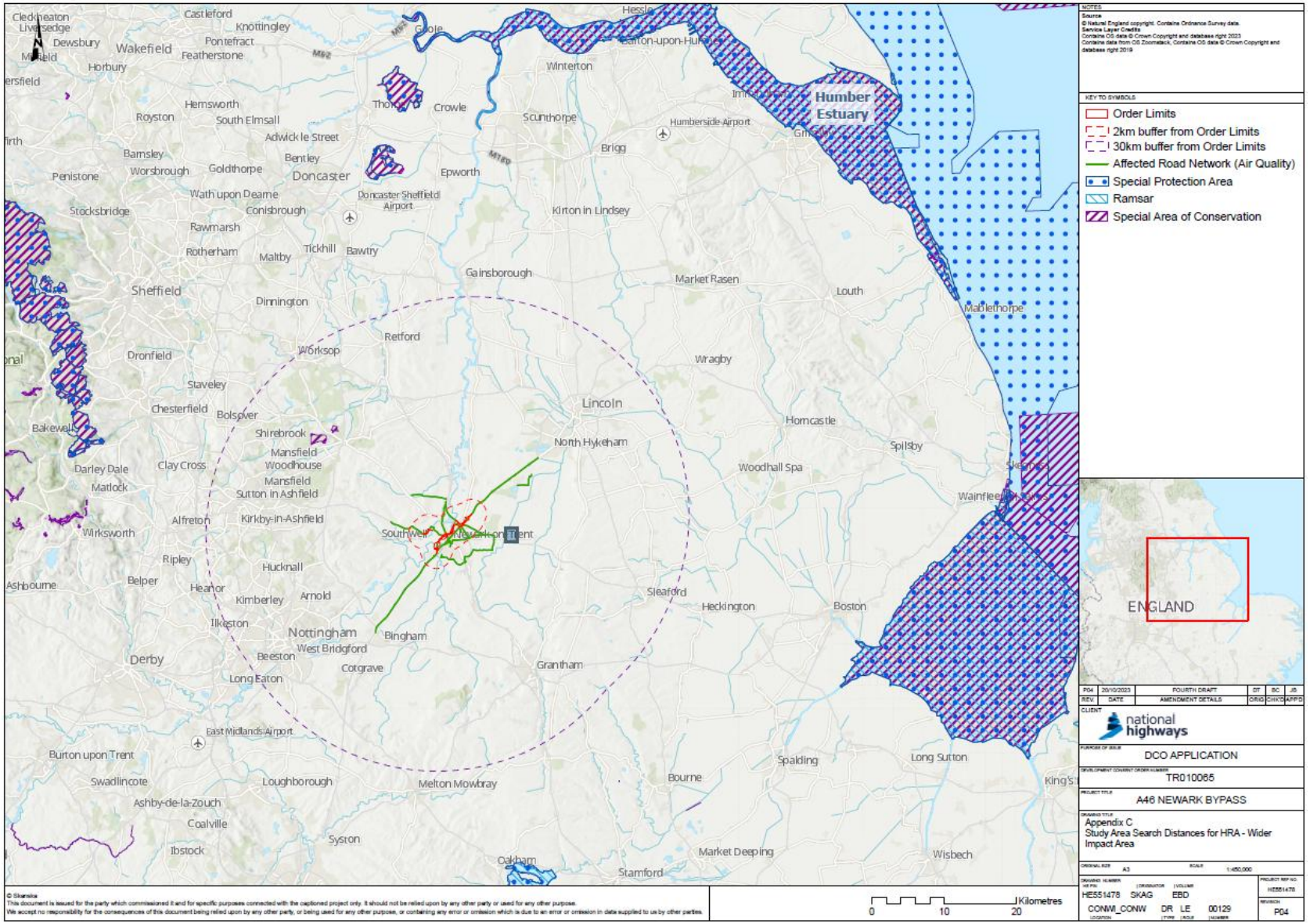
3.6. The Humber Estuary SAC and Ramsar site have been scoped into this assessment for potential impacts on breeding and migrating lamprey [paragraph 4.1.9, REP5-075].

3.7. Given the distance of the Humber Estuary SAC/Ramsar site from the Order Limits (53 kilometres directly between the Order Limits and the sites and 75 kilometres via the channel of the River Trent), the potential for impacts upon habitats cited under the SAC and Ramsar site designations and for impacts upon all of the other qualifying species (grey seal *Halichoerus grypus*, various bird species and the non-breeding waterfowl assemblage) have been scoped out of the assessment. The Humber Estuary SPA, designated for various bird species and the non-breeding waterfowl assemblage, has been scoped out for the same reason [paragraph 4.1.10, REP5-075].

3.8. The ExA notes that no additional UK European sites were identified by IPs during the Examination for inclusion within the assessment [ER 4.1.16].

3.9. The Secretary of State is therefore satisfied that no other European sites need to be addressed in this HRA Report.

Figure 1 Location of the Proposed Development in relation to European sites potentially affected.



4. STAGE 1: ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS ("LSE")

Potential effects from the Proposed Development

4.1. Section 4.2 of the Applicant's HRA Report assessed the LSE from the Proposed Development. In line with relevant case law[2], that assessment was undertaken in the absence of mitigation (including measures embedded into the Proposed Development where these are intended for the avoidance of effects upon a designated site) [paragraph 3.3.6, REP5.075].

4.2. The Applicant's Stage 1 screening matrix (Table 4.2) considered the Humber Estuary SAC/Ramsar site, relevant qualifying features (at pages 46-47) and the impact pathways which could affect them (at pages 48-53):

- *Reduction of habitat area*. There will be no land take from the Humber Estuary SAC or Ramsar site boundaries, nor any functional land (suitable for qualifying species) attributed to the SAC/Ramsar site. No LSE.
- *Disturbance to key species*. Piling works associated with the Proposed Development are considered unlikely to impact upon migrating lamprey; however, temporary and localised disturbance of resting and larval lamprey (if present) is possible.

  The Applicant indicated that their assessment applied a precautionary approach, assuming that impact piling will be required during construction. Piling works will be undertaken in the daytime to avoid sensitive periods for lamprey migration (nighttime hours). This means that the piling works could impact lamprey resting nearby in the day. However, lamprey lack a swim bladder and as such are categorised as low hearing sensitivity fish, as these species detect sound particle motion within a narrow band of frequencies, rather than sound pressure. This physiology makes lamprey inherently resilient to the kinds of physical injury (e.g. barotrauma) that some other fish species can experience as a result of adverse levels of underwater sound and vibration, and therefore physical injury is highly unlikely to occur. It is considered that lamprey would need to make contact with a vibrating surface for a response to be likely (i.e. localised impact). Their behavioural response is likely to include swimming away and a change of swimming direction, orientation or position in the water column. However, the risk of more significant responses from vibratory piling, such as startle reactions, is low. Proposed piling at Nether Lock Viaduct and Windmill Viaduct will be set back from the bank. Therefore, the disturbance pathway (through earth, then water), mean lamprey will not be able to come into direct contact with the source of vibration. No LSE.

  As detailed in Chapter 8 (Biodiversity) of the ES, the northern branch of the River Trent is considered the main route for lamprey migration and will likely act as a bypass to the upper reaches during piling works along the southern branch of the river. This branch of the River Trent is currently more affected

[2] Landelijke Vereniging tot Behoud van de Waddenzeecase/ Nederlandse Vereniging tot Bescherming van Vogels, European Court of Justice, Case C-127/02; Sweetman et al v An Bord Pleanala, European Court of Justice, Case C-258/11; and People over Wind/Sweetman v Coiltte Teorante, European Court of Justice Case C-323/17.

by the light distribution from nearby urban areas compared with the northern branch (the part of the river that passes through Kelham); therefore, light spill during construction will be along a section of the watercourse which is already subject to artificial light. The southern branch is also only available to migratory lamprey when Nether Lock is open and therefore is considered semi-permeable to migratory lamprey. The northern branch, considered the main route for migratory lamprey, provides more favourable conditions for migration, given the permeability and reduced lighting along this stretch.

Furthermore, works at Kelham and Averham Flood Compensation Area ("FCA") will be completed prior to commencement of main alignment works. A precautionary approach was applied assuming a de minimis level impact on resting lamprey on their migration journey, instead of a neutral impact, due to daytime piling works.

Artificial light spill associated with unavoidable night-time bridge beam installation, risks creating a temporary semi-permeable 'barrier'/disturbance to lamprey migration. Temporary semi-permeable 'barrier' refers to when a crane slews and the lighting on the boom casts across the water before coming to rest on the beam lift. However, it is noted that this would likely only ever be for short periods of time (the slewing of the crane would take place approximately four times during a night shift, with the slew taking approximately 30 minutes, with works occurring over 4 weeks in total). The River Trent is approximately 30 metres wide at the location of the works and therefore, as the crane slews, only a section of the width of the watercourse would be illuminated at any one time. Therefore, the light spill is unlikely to sever the migratory route as there will be dark areas either side. No LSE.

- *Habitat or species fragmentation*. No temporary or permanent physical barriers to movement of lamprey would be created as a result of the Proposed Development; however, artificial light spill associated with night-time bridge works does risk creating a temporary and localised semi-permeable 'barrier' to lamprey migration (disturbance only to migrating lamprey), as detailed above. Potential for LSE associated with the temporary and localised fragmentation of migratory habitat (the River Trent).

  The Farndon East FCA and Farndon West FCA could trap lamprey individuals as flood waters recede, should flood events be encountered during the lamprey migration (November to May, inclusive) and breeding season (March to May, inclusive).

  Adult river lamprey stop feeding when they enter freshwater to begin their migration upstream to spawning sites, after which, all adult lamprey species die after spawning. Most adult river lamprey found in fresh water are either migrating upstream to spawn or are dying after spawning (natural cause of death). Following construction, if individual adult lamprey that have not yet spawned were subject to entrapment in the excavated Farndon FCAs as flood water recedes (draining into Old Trent Dyke), there is potential that they may not survive until the next flood event (having expended their energy migrating and no longer foraging). As river lamprey require flowing water through silt and sand substrate to spawn, they would not be able to spawn within the Farndon FCAs before dying. Adult river lamprey physiology facilitates their migration in winter and early spring when water flows are greater, hiding under stones and vegetation (sucking disk to cling to rocks).

Therefore, the likelihood of river lamprey being swept up by flood water is considered low, as they would likely take refuge until suitable conditions resumed for their migration. However, entrapment/isolation of individuals within the Farndon East FCA and Farndon West FCA during periods of flooding is possible (although considered a low risk). Therefore, potential for LSE associated with the fragmentation/isolation of individual lamprey (within Farndon East FCA and Farndon West FCA).

- *Reduction in species density*. Disturbance to lamprey migration (via artificial light spill or entrapment of individuals within the Farndon East FCA and Farndon West FCA) could impact upon species density of the lamprey populations associated with the SAC/Ramsar site. However, artificial light use would be temporary, only encountered during bridge beam installation and the entrapment of individuals is of low risk for at all lamprey life stages, due to their physiology. Potential for LSE through the loss of lamprey individuals (from entrapment/isolation).
- *Changes in key indicators of conservation value (e.g. water quality)*. Due to the distance of the SAC/Ramsar site from the Proposed Development limits and the embedded mitigation measures within the Proposed Development with respect to temporary drainage and silt management techniques (considered below), it is not considered that the Proposed Development would result in adverse changes to key indicators or reduce the conservation value of the SAC/Ramsar site. No LSE.
- *Climate change*. Whilst an overall increase in vehicle movements is anticipated within the operational Proposed Development, the works aim to reduce congestion (and idling vehicles) and enable more consistent traffic speeds and smoother journey conditions to be achieved, thereby reducing pollution levels.

  At least 50% of the Proposed Development would also be subject to speed restrictions or reductions to 50mph, which would contribute towards reduced emissions. Furthermore, air quality is expected to improve in the future, mainly due to reduced vehicle emissions, improved abatement technology and a shift towards cleaner energy.

  Consultation with the EA, Nottinghamshire County Council (the Lead Local Flood Authority), Newark & Sherwood District Council and the Trent Valley Internal Drainage Board has shaped and influenced the drainage design and the assessment of flood risk, with an allowance for the effects of climate change included in the design of the Proposed Development.

  It is not considered that the Proposed Development would result in significant adverse impacts upon or changes to the SAC/Ramsar site as a result of impacts of climate change. No LSE.

4.3. The Secretary of State notes the ExA's reference to the Applicant's HRA Report [REP5-075] which assessed the potential impacts during construction, operation and maintenance; it did not assess impacts during the decommissioning phase. Paragraph 3.2.6 of the Applicant's HRA Report explains that it is highly unlikely that the Proposed Development would be demolished after its design life as it will form an integral part of the local and strategic road networks and therefore effects associated with decommissioning were scoped out of the assessment [ER 4.2.4]. The Secretary of State agrees with this conclusion.

4.4. No additional impact pathways or qualifying features were identified by NE or other IPs for inclusion within the assessment [ER 4.2.5]. The Secretary of State is satisfied that the Applicant's HRA Report has correctly identified all the potential effects on European sites from the Proposed Development [ER 4.4.2].

Potential in-combination effects

4.5. The Applicant addressed potential in-combination effects arising from the Proposed Development within Section 4.3 of the Applicant's HRA Report [REP5-075] and the other plans and projects included in the in-combination assessment are outlined in Table 4.2 of that Report. In response to a request from NE [RR-044], the Applicant confirmed that non-NSIPs were included in the in-combination assessment [REP1-009], and the Applicant's HRA Report was updated at Deadline 3 [REP3-024] to clarify this point [ER 4.2.10 – 4.2.11].

4.6. Table 4.2 considers the potential for in-combination effects upon lamprey for each relevant NSIP and potential NSIP (at pages 54-57) and non-NSIPs (at pages 57-77).

4.7. In-combination effects associated with noise/vibration disturbance were considered unlikely to occur, given the *de minimis* level impact upon migrating lamprey within the Proposed Development. Whilst there is a risk of disturbance of resting lamprey or larval lamprey (if present) during the daytime, these impacts would be localised and as lamprey are a low hearing sensitivity fish species, the impacts are not considered to be significant. These works were therefore not considered likely to contravene the conservation objectives of the Humber Estuary SAC/Ramsar site, either alone or in-combination with the other identified NSIPs and non-NSIPs, and therefore were not considered further.

4.8. The potential for in-combination effects of fish entrapment/isolation and temporary disturbance of migratory routes are considered further within Stage 2 (Appropriate Assessment), owing to the sufficient uncertainty from this source of effect in relation to a conclusion of LSE upon lamprey.

4.9. NE [REP5-066] confirmed that it was satisfied with the scope of the in-combination assessment in the Applicant's HRA Report updated at Deadline 3 [ER 4.2.13].

LSE Screening Conclusions

4.10. A number of matters were raised in the Examination and where the ExA sought clarity in relation to the Applicant's assessment of LSE, and these are summarised below.

4.11. NE requested [RR-044] that further details on temporary drainage and silt management techniques be provided to enable the assessment of the likely impact of construction works on the European sites. In response, the Applicant [REP1-009] clarified that measures to protect the water environment during construction were outlined in the First Iteration Environmental Management Plan ("EMP") [REP6-012] and would be detailed in relevant plans as part of the Second Iteration EMP. NE [REP2-045] agreed that with the implementation of these plans, it is likely that an impact upon the European sites would be avoided [ER 4.2.15].

4.12. The RIES [ExQ2 QR2] sought to confirm that the measures to protect the water environment were not necessary to avoid or reduce adverse significant effects of the Proposed Development on the relevant European sites. NE [REP5-066] was content that the measures proposed by the Applicant were not necessary to avoid or reduce adverse significant effects [ER 4.2.16].

4.13. NE [RR-044] queried why the potential effects on migrating lamprey from operational light spill were not assessed in the Applicant's HRA. The Applicant explained [REP1-009] that the Proposed Development would not introduce any new lighting in closer proximity to the River Trent than is currently present and an assessment of operational lighting effects was not required in its HRA Report [ER 4.2.20].

4.14. The ExA was satisfied, on the basis of the information provided, that the correct impact-effect pathways on each site had been assessed and was satisfied with the approach to the assessment of alone and in-combination likely significant effects [ER 4.2.25].

4.15. Based on the information submitted, the **Secretary of State agrees** with the ExA's conclusion that LSE cannot be excluded from the Humber Estuary SAC/Ramsar site alone and in-combination with respect to the following impacts [ER 4.2.26], and these are therefore considered in the Secretary of State's AA (Section 5):

- Habitat or species fragmentation associated with the temporary and localised fragmentation of migratory habitat (the River Trent) via artificial light spill during construction; and
- Habitat or species fragmentation due to the entrapment/isolation (loss[3]) of individual lamprey (within Farndon East FCA and Farndon West FCA) during operation.

[3] Loss refers to the reduction in species density, impact pathway described in Paragraph 4.1 above, and the potential for LSE through the loss of individuals from the entrapment/isolation of individuals within the Farndon East FCA and Farndon West FCA.

5. STAGE 2: APPROPRIATE ASSESSMENT

5.1. As LSE cannot be excluded, the Secretary of State as the competent authority is required to undertake an AA to determine the implications for the conservation objectives of the affected European sites. In line with the requirements of regulation 63 of the Habitats Regulations:

> *"(5)…the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site';* and
>
> *"(6) In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given".*

5.2. As noted in Section 1 of this HRA Report, the competent authority is obliged to consult the appropriate nature conservation body and have regard to any representations made by that body. NE was actively engaged with the Examination, and provided confirmation of its agreement with the Applicant's findings and outcomes in respect of HRA matters in its final Statement of Common Ground [REP7-094 and ER 4.2.22]. The Secretary of State notes the consultation outlined by the ExA and agrees that NE has been satisfactorily consulted in line with regulation 63(3) of the Habitats Regulations [ER 4.1.7 – 4.1.8].

5.3. If the competent authority in undertaking the AA cannot exclude Adverse Effects on the Integrity of the affected European site ("AEoI") on the basis of objective scientific evidence, then it can only agree to a plan or project if it complies with the requirements of regulation 64 of the Habitats Regulations. Regulation 64 provides that the competent authority may agree to the plan or project only if satisfied that there are no alternative solutions, and that the plan or project must be carried out for imperative reasons of overriding public interest. In addition, regulation 68 requires compensatory measures to be secured which maintain the overall coherence of the National Site Network.

Conservation objectives

5.4. As referenced in paragraph 1.11 of this HRA Report, where an AA is required in respect of a European site, regulation 63(1) of the Habitats Regulations requires that it be an appropriate assessment of the implications of the plan or project for the site in view of its conservation objectives. Government guidance also recommends that in carrying out the stage one assessment (screening), applicants must check if the proposal could have a significant effect on a European site that could affect its conservation objectives. The conservation objectives relevant to this HRA Report, as published by NE, are set out in Annex 3 to this HRA Report for the following sites:

- Humber Estuary SAC
- Humber Estuary Ramsar site

5.5. No relevant conservation objectives are provided for the Humber Estuary Ramsar site in Annex 3 of this Report. However, the conservation objectives for the Humber

Estuary SAC are provided to support the conservation management of the Ramsar site[4]

5.6. The Secretary of State has undertaken an objective scientific assessment of the implications of the Proposed Development on the qualifying features of the Humber Estuary SAC/Ramsar site, using the best available scientific knowledge. The assessment has been made in light of the conservation objectives for the SAC.

5.7. In accordance with the precautionary principle embedded in the integrity test and established through case law, the competent authority (subject to regulation 64) may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site, and this must be demonstrated beyond all reasonable scientific doubt[5].

5.8. A summary of the Secretary of State's AA is presented below.

Habitat or species fragmentation associated with the temporary and localised fragmentation of migratory habitat via artificial light spill during construction – Proposed Development alone and in-combination

5.9. The assessment of temporary severance of lamprey migratory routes along the River Trent from artificial light spill during construction and relevant mitigation measures is provided in Section 5.3 of the Applicant's HRA Report.

5.10. Bridge beam installation is programmed to be undertaken consecutively for two weeks at each viaduct (total of four weeks) during May 2026. These works would therefore occur within the latter stages of the typical lamprey migration period (November to May) and account for a seventh of this period. Seasonal variables in the year of construction could either delay or provide suitable conditions for early migration or shorten or length the period of migration.

5.11. Whilst the bridge beam installation works will endeavour to avoid the lamprey migration season, there are timing constraints to this element of the works. Bridge beam installation at certain locations (e.g. Nether Lock Viaduct) will be constrained by possession availability on the ECML. The works are also weather dependent, with a particular need to avoid high winds and therefore it is anticipated that the window for this work would best be undertaken in spring and summer months due to the reliability of the weather. Therefore, whilst the exact timing of the installation may change, it cannot be guaranteed that the bridge beam installation works would be able to avoid the lamprey migration season.

5.12. Under the current works programme the bridge beam installations would be undertaken in two locations along the southern branch of the River Trent. This branch

[4] As the provisions on the Habitats Regulations relating to Habitat Regulations Assessments (HRAs) extend to Ramsar sites, Natural England considers the Conservation Advice packages for the overlapping European Marine Site designations to be, in most cases, sufficient to support the management of the Ramsar interests. Source: Natural England Conservation Advice https://designatedsites.naturalengland.org.uk/SiteList.aspx?siteName=humber%20estuary&countyCode=&responsiblePerson=&DesignationType=Ramsar

[5] CJEU Case C-127/02 Waddenzee 7 September 2004, Reference for a preliminary ruling from the Raad van State (Netherlands) in the proceedings: Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij.

of the River Trent is currently more affected by the light distribution from nearby urban areas compared with the northern branch (the part of the river that passes through Kelham); therefore light spill during construction will be along a section of the watercourse which is already subject to artificial light. The southern branch is also only available to migratory lamprey when Nether Lock is open and therefore is considered semi-permeable to migratory lamprey. The northern branch, considered the main route for migratory lamprey, provides more favourable conditions for migration, given the permeability and reduced lighting along this stretch. Therefore, the southern branch of the River Trent, where works are located, can be bypassed by migrating lamprey by using the northern branch of the River Trent. With the opportunity for lamprey to use this available channel, the impacts to the lamprey as a result of the works are likely to be minimal, however, additional mitigation detailed below is considered best practice and would further lessen any impacts the artificial lighting may have on the river.

Mitigation

5.13. Following consultation with NE as described in the ExA's Recommendation Report (Section 4.4), the Applicant proposed the following mitigation in addition to embedded mitigation:

- Static, task lighting with cowls should direct light towards the areas of works to minimise light spill on lamprey migratory routes.
- Night working will be restricted along the majority of the working width along the River Trent to minimise the requirement for artificial lighting, thereby avoiding disturbance effects of artificial lighting on sensitive ecological features including lamprey.
- Where this is not possible, static, task lighting with cowls will direct light towards the areas of works and avoid direct illumination of the River Trent. The only exception to this would be during crane slewing, where the lighting on the boom may cast across the water before coming to rest on the beam lift, which would be temporary and short-term (taking place over four 30-minute intervals during a night shift).

5.14. The applicant updated the Register of Environmental Actions and Commitments ("REAC") in the First Iteration EMP [REP6-012] to reflect the additional mitigation [ER 4.4.30].

Conclusion

5.15. The Applicant concluded that during beam installation at the new Nether Lock and Windmill Viaducts, with the addition of the above-listed mitigation measures, the potential for the temporary disturbance of lamprey migratory routes associated with the Proposed Development is considered to be sufficiently reduced and the residual impact upon lamprey is considered to be negligible. As such, an AEoI of the sites with regards to disturbance of lamprey migration routes can be ruled out [paragraph 5.3.7, REP5-075].

5.16. NE confirmed [REP5-066] that its concerns had been addressed and agreed with the Applicant's conclusion of no AEoI [ER 4.4.31].

5.17. On the basis of the above information and the mitigation proposed, the ExA was satisfied that this LSE pathway will not result in AEoI to the European sites from the Proposed Development alone or in-combination with other plans and projects [ER 4.4.33].

Habitat or species fragmentation due to the entrapment/ isolation (loss) of individual lamprey (within Farndon East FCA and Farndon West FCA) during operation - Proposed Development alone and in-combination

5.18. The assessment of the loss of lamprey individuals due to entrapment/ isolation within the Farndon East FCA and Farndon West FCA should a flood event occur during operation of the Proposed Development and relevant mitigation measures is provided in Section 5.2 of the Applicant's HRA Report.

5.19. During the operational phase, flooding of the Farndon East FCA and Farndon West FCA could result in the low risk of entrapment/isolation (loss) of lamprey individuals (all life stages), should a flood event occur during the lamprey migration or breeding period.

5.20. This could contravene conservation objectives associated with maintaining the population and distribution of qualifying species of the Humber Estuary SAC/Ramsar site (i.e. river and sea lamprey), and could constitute a LSE (without implementation of mitigation).

Mitigation

5.21. The assessment of entrapment / isolation of individual lamprey during flooding, consultation with NE and the EA and relevant mitigation measures are described in Section 4.4 of the Recommendation Report.

5.22. Fish escape passages were proposed within both the newly created Farndon East FCA and Farndon West FCA (due to the creation of deep pools at this site). For lamprey (during times of migration or breeding) and any other fish which may enter the Farndon East FCA or Farndon West FCA during flood events, these passages would provide an escape route back to the River Trent and prevent/reduce the risk of entrapment.

5.23. The Applicant [REP1-009] refined the design of the proposed fish escape passages and produced a technical note outlining the options that it had considered and justification for the design option selected. The technical note was shared with NE and the EA on 15 October 2024 [REP2-045].

5.24. During refinement of the fish escape passage design, the Applicant considered four alternative options to mitigate for the risk of fish entrapment within the Farndon FCAs. A preferred option was selected by the Applicant [REP1-009 and REP3-024] comprising the provision of two fish escape passages from the north of each FCA, as overspill channels, into Old Trent Dyke [ER 4.4.10].

5.25. In Appendix I of the Applicant's updated HRA Report [REP3-024], the Applicant noted that the dimensions of the fish escape passage selected (0.5m width and 0.3m depth) were recommended by the EA as a minimum following consultation on criteria to incorporate into the design of the Farndon FCAs. However, the EA [REP3-044 and REP4- 044] advised that the dimensions were recommended for use in fish passage channels direct to the River Trent over a short distance. The EA argued that the new fish escape passage design (option 4 presented in Appendix G of the updated HRA

Report [REP3-024]) is over a much greater distance including long stretches of naturalised channel and the dimensions proposed were no longer appropriate. The EA advised [REP4-044] that the detailed design of the extended channel length presented in the technical note should be reassessed [ER 4.4.12].

5.26. NE [REP5-066] reviewed the EA's comments [REP4-044] and agreed that further detailed design and assessment regarding the fish escape passages was required, in joint consultation with both the EA and NE [ER 4.4.16].

5.27. The specific number, location and design of fish escape passages will be finalised during detailed design. These details are provided in Table 3.2 of the REAC in the First Iteration EMP [REP4-010]. The pools within Farndon West FCA would be excavated to a maximum depth of 2-3 metres below ground level to provide stable thermal properties for the survival of fish until the next flood event, should individuals not use the fish escape passage as flood water recedes. Similarly, the lake proposed in Farndon East FCA would be excavated to a maximum depth of 4 metres [paragraph 5.2.3, REP5-075].

5.28. NE confirmed [REP7-106] that it agreed in principle with the current fish escape passage mitigation proposed and was content with the Applicant's commitment to consult both NE and the EA on any future iterations of the fish escape passage design [ER 4.4.18].

5.29. The EA requested [REP3-044] that the Applicant provide details regarding the maintenance of the Farndon FCAs fish escape passages. The Applicant explained [REP4-019] that ongoing monitoring and maintenance of fish escape passages will form part of the Landscape and Environmental Management Plan (LEMP). The applicant referred to specific commitments proposed within the First Iteration EMP to ensure the ongoing maintenance of the FCAs for the lifetime of the Proposed Development and how these are secured in the draft DCO. However, the Applicant noted that the maintenance details would be confirmed at the next stage of design [ER 4.4.20]. The EA [REP5-065] confirmed that it was satisfied with the proposed maintenance measures and considered this matter resolved [ER 4.4.21].

Conclusion

5.30. The Applicant concluded that entrapment/isolation of lamprey within the Farndon East FCA and Farndon West FCA would only occur during the migration and breeding period for lamprey. The inclusion of fish escape passages provides opportunities for lamprey to return to the River Trent; therefore, the potential for lamprey entrapment/isolation associated with the Proposed Development is considered to be sufficiently reduced and the residual impact upon lamprey considered to be negligible. As such, no AEoI is anticipated with regards to lamprey entrapment/isolation within the Farndon East FCA and Farndon West FCA [paragraph 5.2.4, REP5-075].

5.31. NE agreed [REP7-106] that with appropriately designed mitigation, there would be no AEoI on the Humber Estuary SAC/Ramsar site due to entrapment/ isolation (loss) of lamprey and that it had no further comments on this matter [ER 4.4.19].

5.32. On the basis of the above information and the mitigation proposed, the ExA was satisfied that this LSE pathway will not result in AEoI to the European sites from the Proposed Development alone or in-combination with other plans and projects [ER 4.4.23].

Conclusion of the appropriate assessment

5.33. As the competent authority for Transport related NSIPs the Secretary of State for Transport has undertaken an AA under regulation 63 of the Habitats Regulations in relation to the Humber Estuary SAC and Ramsar site.

5.34. The Secretary of State is satisfied that, given the relative scale and magnitude of the identified effects on the qualifying features of these European sites and where relevant, the measures in place to avoid and reduce the potential harmful effects, there would not be any implications for the achievement of the conservation objectives for the Humber Estuary SAC and Ramsar site (set out in Annex 3 to this Report) arising from this development and is satisfied that the Development will not adversely affect the integrity of those sites.

5.35. The Secretary of State notes that NE agree with the applicant's conclusion of no adverse effect on site integrity in respect of the Humber Estuary SAC and Ramsar site [REP7-094]

6. SUMMARY OF CONCLUSIONS

6.1. As the competent authority in relation to the Application for development consent, the Secretary of State for Transport has undertaken an AA under regulation 63 of the Habitats Regulations for the Humber Estuary SAC and Ramsar site.

6.2. The Secretary of State has carefully considered all the information presented within the Application, during the Examination and the representations made by IPs, along with the ExA's Recommendation Report and the responses to the Secretary of State's further consultations. The Secretary of State is satisfied that the views of NE, as the appropriate nature conservation body, have been considered and that they are in agreement with the scope and conclusions of the Applicant's HRA Report.

6.3. The Proposed Development is not directly connected with, or necessary to, the management of a European site, but is likely to have a significant effect on the Humber Estuary SAC and Humber Estuary Ramsar site. The Secretary of State therefore carried out an AA to determine any AEoI of these European sites.

6.4. The Secretary of State concludes that the Proposed Development alone and in combination would not result in an adverse effect on the integrity of the Humber Estuary SAC and Ramsar site.

6.5. The Secretary of State is satisfied that given the relative scale and magnitude of the identified effects on the qualifying features of this European site and where relevant, the measures in place to avoid and reduce the potential harmful effects, there would not be any implications for the achievement of the conservation objectives for the Humber Estuary SAC. Those conservation objectives are set out in Annex 3 of this HRA Report.

6.6. The Secretary of State is satisfied that the overall coherence of the National Site Network would be protected by the implementation of mitigation measures secured through the DCO.

6.7. The Secretary of State has therefore concluded, as competent authority for the purposes of the Habitats Regulations, that taking into account the package of proposed mitigation measures which will be secured in the DCO and other documents to avoid any potential adverse impacts on site integrity, it is permissible for her to give consent for the Proposed Development.

Annex 1 Documents used to inform this HRA Report

NB. This list is not exhaustive. This HRA Report is informed by the Application and submissions to the Examination, together with submissions after the close of Examination.

Application Documents

- Environmental Statement Chapter 2 The Scheme [REP7-016]
- Environmental Statement Chapter 8 Biodiversity [REP7-026]
- Environmental Statement Chapter 7 Landscape and visual effects [REP7-024]
- Case for the Scheme [REP7-074]
- 6.6 Environmental Statement - Habitats Regulations Assessment [APP-185]
- 6.6 Environmental Statement - Habitats Regulations Assessment - Rev 2 (Clean) Updated at Deadline 3 [REP3-024]
- 6.6 Environmental Statement - Habitats Regulations Assessment (Clean) - Rev 3 Updated at Deadline 5 [REP5-075]
- First Iteration Environmental Management Plan (EMP) [REP6-012]

Examination Documents produced by Applicant

- 7.10 Applicant's Response to Relevant Representations [REP1-009]
- 7.27 Statement of Common Ground with Natural England - Rev 4 [REP7-094]

ExA Procedural Documents

- Report on the Implications for European Sites [PD-010]
- Recommendation Report to the Secretary of State

Annex 2 Full list of qualifying features screened for LSE

Site name	Qualifying features
Humber Estuary SAC	H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks
	H1130. Estuaries
	H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats
	H1150. Coastal lagoons
	H1310. *Salicornia* and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand
	H1330. Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
	H2110. Embryonic shifting dunes
	H2120. Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); Shifting dunes with marram
	H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland
	H2160. Dunes with *Hippophae rhamnoides*; Dunes with sea-buckthorn
	S1095. *Petromyzon marinus*; Sea lamprey
	S1099. *Lampetra fluviatilis*; River lamprey
	S1364. *Halichoerus grypus*; Grey seal
Humber Estuary Ramsar site	Ramsar criterion 8: The Humber Estuary acts as an important migration route for both river lamprey and sea lamprey between coastal waters and their spawning areas.

Annex 3 Conservation objectives for sites considered in the appropriate assessment

The conservation objectives reproduced below are available from:

https://designatedsites.naturalengland.org.uk/ConservationAdvice.aspx?SiteCode=UK0030170[6]

NB. In the case of all European sites identified below, the Conservation Objectives are to be read in conjunction with the accompanying Supplementary Advice documents, which provides more detailed advice and information to enable the application and achievement of the Objectives set out.

Humber Estuary SAC (Site Code UK0030170)

With regard to the SAC and the natural habitats and/or species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of the qualifying natural habitats and habitats of qualifying species;
- The structure and function (including typical species) of qualifying natural habitats;
- The structure and function of the habitats of the qualifying species;
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;
- The populations of qualifying species; and
- The distribution of qualifying species within the site.

Qualifying Features:

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1130. Estuaries

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1150. Coastal lagoons

[6] Accessed 08/09/2025

H1310. *Salicornia* and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand

H1330. Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

H2110. Embryonic shifting dunes

H2120. Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); Shifting dunes with marram

H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland*

H2160. Dunes with *Hippophae rhamnoides*; Dunes with sea-buckthorn

S1095. *Petromyzon marinus*; Sea lamprey

S1099. *Lampetra fluviatilis*; River lamprey

S1364. *Halichoerus grypus*; Grey seal

Humber Estuary Ramsar site

Ramsar criterion 8

- The Humber Estuary acts as an important migration route for both river lamprey *Lampetra fluviatilis* and sea lamprey *Petromyzon marinus* between coastal waters and their spawning areas.