Norfolk County Council

Great Yarmouth Transport Strategy (2025-2035)

Information to Inform a Habitats Regulations Assessment: Stage 1 - Screening

Draft for Consultation

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1 Introduction

1.1 Background

1.1.1 The Great Yarmouth Transport Strategy (GYTS) sets out the transport vision and infrastructure needs for Great Yarmouth and the surrounding area. It supports the Norfolk Local Transport Plan (LTP), adopted by Norfolk County Council (NCC) in 2022, by providing a local context for its delivery.

1.1.2 Amid potential changes such as Devolution and Local Government Reorganisation, it is crucial to highlight Great Yarmouth's needs to decision-makers. Implementing the identified transport measures will be key to driving prosperity, economic growth, and ensuring the town fulfils its full potential for residents and visitors alike.

1.1.3 WSP has been appointed by NCC to undertake a Habitats Regulations Assessment (HRA) for the GYTS. Stage 1 (Screening), as presented within this report, represents the first step in the HRA process. The focus of the HRA process is on the potential for adverse effects as a result of the GYTS policies on the integrity of European nature conservation sites, also known as Habitats sites.

1.1.4 The Stage 1 (Screening) presented herein comprises a desk-based review of relevant information, including biodiversity information, and relevant HRA reporting (relating to other relevant plans and projects). The exercise identified all relevant Habitats sites where Likely Significant Effects (LSE) could occur, particularly in relation to air quality changes and recreation pressures associated with the anticipated GYTS policies. The information captured here has formed part of the evidence base for this Stage 1 HRA (Screening) and subsequent HRA stages (including, if deemed necessary, a Stage 2 Appropriate Assessment (see Methodology Section 2).

1.2 Report Framework

1.2.1 At a screening level, this report will ensure that all HRA-related considerations are fully integrated into the GYTS as it is developed.

1.2.2 This report details:

- The HRA process and methodology for assessment;
- The relevant Habitats sites within the Zone of Influence (ZoI) for the GYTS;
- The challenges of the GYTS and how these may impact upon relevant Habitats sites, and
- The screening of LSE (Stage 1) of the GYTS.

1.2.3 It should be noted that this HRA has been based solely upon the GYTS and does not include a detailed analysis of any projects that may arise as a result of the Strategy.

1.3 Objectives of the Strategy

1.3.1 As communicated by NCC, the implementation and development of an efficient, sustainable and reliable transport system is vital to support the county's economy, the vitality of its communities and to protect its environment:

"This Transport Strategy sets out the vision, objectives and policies for consideration when identifying short, medium and long-term transport infrastructure required to support existing and new communities in Great Yarmouth and the surrounding area."

1.3.2 This is set within the context of The Vision, as follows:

"To support sustainable economic growth in Great Yarmouth by facilitating journey reliability and improved travel mode choice for all, whilst contributing to improved health, air quality, safety, and protection of the built and natural environment."

1.3.3 In order to deliver the Vision, the GYTS sets out seven objectives that it aims to achieve, each of which is supported by a series of detailed policies and interventions. The objectives comprise:

- **Growth**: Support the delivery of planned housing and business growth and development in the Borough, by using improved transport links to unlock economic investment.
- **Connectivity**: Enhance connectivity and accessibility for all within Great Yarmouth.

- **Public transport**: Encourage greater use of public transport in Great Yarmouth.
- **Active travel**: Support modal shift from private car use to active travel in Great Yarmouth.
- **Environment**: Improve local air quality and Great Yarmouth's natural environment and reduce overall transport emissions
- **Safety**: Improve road safety in Great Yarmouth.
- **Culture and heritage**: Protect and enhance Great Yarmouth's heritage and cultural environment through place-making.

1.3.4 The main targets under GYTS, are as follows:

- **Growth target**: Secure transport network improvements as part of new housing and employment sites.
- **Connectivity target**: Secure future improvements to the strategic road and rail network.
- **Public transport target**: Grow annual bus and rail patronage.
- **Active travel target**: Increase in the number of people walking, wheeling and cycling to support the government's ambitious target for half of all journeys in towns and cities to be walked or cycled by 2030.
- **Environment target**: Continue to have no Air Quality Management Areas (AQMA).
- **Safety target**: Reduce accident numbers from current levels.
- **Culture and heritage target**: Increasing tourist numbers.

1.3.5 These strategies are detailed in **Table 3**.

2 Relevant policy, legislation, case law and guidance

2.1 Legislative Background

2.1.1 Under the Habitats Regulations, 'Competent Authorities' must assess plans and projects for their potential to cause LSE on Habitats site(s). Where the plan or project may lead to LSE, it must be subject to an AA to determine whether there will be adverse effects to any Habitats site(s). Any plan or project that would lead to adverse effects on the integrity of Habitats site(s) cannot be permitted without meeting strict additional tests.

2.1.2 Defra guidance (2021)[1] states that Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- Existing SACs and SPAs; and
- New SACs and SPAs designated under these Regulations.

2.1.3 Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

2.1.4 It is a matter of Government policy (National Planning Policy Framework (NPPF) paragraph 194) that sites designated under the 1971 Ramsar Convention for their internationally important wetlands (commonly known as Ramsar sites) are also considered in the same way as SACs and SPAs, as should potential SPAs, possible SACs and proposed Ramsar sites and sites identified, or required, as compensatory measures for adverse effects on any of these sites. Collectively, they are referred to as 'habitats sites' in the NPPF and in this report.

[1] Department for Environment Food and Rural Affairs (2021). Changes to the Habitats Regulations 2017. Available at: https://www.gov.uk/government/publications/changes-to-the-habitats-regulations-2017/changes-to-the-habitats-regulations-2017. (Accessed April 2024)

2.1.5 Maintaining a coherent network of protected sites with overarching conservation objectives is still required in order to:

- Fulfil the commitment made by government to maintain environmental protections; and
- Continue to meet our international legal obligations, such as the Bern Convention, the Oslo and Paris Conventions (OSPAR), Bonn and Ramsar Conventions.

2.1.6 This report presents information to enable the screening assessment required as part of Stage 1 of the HRA process, to establish whether or not the GYTS will have a LSE upon the national site network and Ramsar sites (Habitats sites).

2.1.7 The use of the term Favourable Conservation Status (FCS) within the HRA process is not amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the term still has the meaning given by Article 1 of the Habitats Directive. Defra (2021)[3] does however note that "*an appropriate authority is only responsible for managing and adapting the national site network to secure FCS of a feature proportionately to the importance of the UK within the feature's natural range*". The 'Habitats Directive' 92/43/EEC (2018) provides further interpretation of the meaning of 'favourable conservation status' within Article 1 parts a, e and i as below:

'(a) Conservation means a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status as defined in (e) and (i);…..

(e) Conservation status of a natural habitat means the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species within the territory referred to in Article 2. The conservation status of a natural habitat will be taken as "favourable" when:

- *Its natural range and the areas it covers within that range are stable or increasing, and*

- *The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and*
- *The conservation status of its typical species is favourable as defined in (i);*

(i) Conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2; The conservation status will be taken as "favourable" when:

- *Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and*
- *The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and*
- *There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis'.*

2.2 Stages of Habitats Regulations Assessment

2.2.1 Guidance on managing European sites under the UK Government's "Habitats regulations assessments: protecting a European site[2]" sets out a step-wise approach to be followed to enable Competent Authorities to discharge their duties under the Habitats Directive, and matches the approach previously directed by it.

2.2.2 As set out in Regulation 3 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, where Natura 2000 sites are referenced in previously issued guidance, this should be interpreted as relating to the national site network but does not otherwise affect guidance as it applied, before EU exit day.

2.2.3 Under the Habitats Regulations in England and Wales, the approach taken to the stage referred to as 'derogation' follows the same fundamental steps as established above in EC Guidance, comprising consideration of alternative solutions, imperative reasons of overriding public importance (IROPI) and compensatory measures.

2.2.4 Stages and processes of HRA are illustrated in Figure 0-1.

[2] https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site#screening

2.3 Relevant Case Law

2.3.1 There are a number of Court of Justice of the European Union (CJEU) rulings which are relevant to this assessment, and these are summarised below for information. Further information is provided within Appendix A. As the general provisions for the protection of Habitats sites and the procedural requirements to undertake HRA to assess the implications of plans or projects for Habitats sites remain, this previous case law established prior to the UK's exit from the EU is considered to apply unless superseded by the judgement of an appropriate UK court.

The Wealden Judgement

2.3.2 The Wealden Judgement[3], handed down in March 2017, has introduced additional complexities into the assessment process in relation to in-combination and cumulative effects.

2.3.3 Prior to this Judgement, it was deemed that air quality impacts on Habitats sites need only be considered alongside roads where the traffic growth associated with the individual plan or project being assessed exceeded specified screening criteria. These criteria were typically based on changes in vehicle movements and taken from the Design Manual for Roads and Bridges (DMRB, HA207/07[4]) which has been subsequently withdrawn, namely:

- Increases of 1,000 vehicles per day or 200 Heavy Goods Vehicles per day (as Annual Average Daily Traffic (AADT)).

2.3.4 The Wealden Judgement found that the application of the criteria to the traffic growth associated with a single Local Plan was unsound on the basis that two Local Plans collectively contributing more than 1,000 AADT could lead to a potentially significant effect. The Judge determined that further assessment of air quality impacts on Habitats sites should have been carried out and quashed part of the Local Plan that would have led to an in-combination exceedance of 1,000 AADT.

3 Judgment in Wealden District Council v. Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority [2017] EWHC 351 (Admin) DATE: 21 Mar 2017.

4 *Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1 (HA207/07).* Withdrawn, but available at: https://standardsforhighways.co.uk/dmrb/archive/search/df0c77ed-887b-4c84-be0e-000fe18545ae

The People Over Wind Case

2.3.5 The CJEU's decision in the matter of People Over Wind and Sweetman v Coillte Teoranta (C-323/17)[5] , states that: '*Article 6(3) ……. must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site*.'

2.3.6 In the new judgement, the CJEU concluded that mitigation measures could not be considered as part of the project and thus that the screening stage of HRA should not take account of them. This will undoubtedly be tested further in the courts in coming months and years, but the key issue is whether the mitigation measures proposed can genuinely be considered as part of the project, in that they would happen in any case, irrespective of the Habitats site. If not, then they should be considered mitigation measures and considered at the AA stage of HRA.

2.3.7 This is an emerging issue for local authorities and means that, alongside the Wealden judgement and the potential for 'in-combination' effects, the fact that HRA Screening should not take into account measures targeted at mitigating effects on Habitats sites, full AA is more frequently required.

CJEU Ruling in the Netherlands Nitrogen and Agriculture Cases C-293/17 and C-294/17

2.3.8 The final Court Judgement in relation to these two cases was handed down on 7 November 2018. The judgement relates to the assessment of agricultural activities under the Habitats Regulations but has potential implications for the assessment of changes in nitrogen (N) deposition in relation to air quality. Notably, the CJEU ruled that:

[5] Judgement of the Court 12 April 2018, People Over Wind, Peter Sweetman, Coillte Teoranta https://curia.europa.eu/juris/document/document.jsf;jsessionid=B02FE6F4F1C61308615DBBDF079EE5F4?text=&docid=200970&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=11190634

- An ‘appropriate assessment’ may only take into account the existence of Article 6(1) ‘conservation measures’, or Article 6(2) ‘preventive measures’, or specific measures adopted for a conservation programme, or ‘autonomous’ measures not in the programme, if the expected benefits of those measures are certain at the time of the assessment.
- National measures such as procedures for the surveillance and monitoring of farms whose activities cause nitrogen deposition and the possibility of imposing penalties, up to and including the closure of those farms, are sufficient for the purposes of complying with Article 6(2).

Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu v College van gedeputeerde staten van Limburg and College van gedeputeerde staten van Gelderland (Cases C-293/17 and C-294/17)

2.3.9 The ‘’Dutch Nitrogen’’ cases established that: (Paragraph 126) “…*it is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm to the integrity of the site concerned, by guaranteeing beyond all reasonable doubt that the plan or project at issue will not adversely affect the integrity of that site, that such a measure may be taken into consideration in the 'appropriate assessment*…” and (Paragraph 130) “*The appropriate assessment of the implications of a plan or project for the sites concerned is not to take into account the future benefits of such 'measures' if those benefits are uncertain, inter alia because the procedures needed to accomplish them have not yet been carried out or because the level of scientific knowledge does not allow them to be identified or quantified with certainty*”.

Compton Parish Council, Julian Cranwell and Ockham Parish Council v Guildford Borough Council, SoS for Housing, Communities and Local Government (2019), High Court of Justice, EWHC 3242 (Admin) CO/2173,2174,2175/2019

2.3.10 In the Compton case, the Court ruled in relation to exceedances of nitrogen deposition critical loads and NOx emissions, that, in arriving at a conclusion during appropriate assessment, that this: ‘*could not be answered, one way or the other, by simply considering whether there were exceedances of critical loads or levels, albeit*

rather lower than currently. What was required was an assessment of the significance of the exceedances for the SPA birds and their habitats…'.The HRA for the revised Ports NPS has, in accordance with the Compton ruling, considered the effects of likely impacts to the extent that the Competent Authority is able to be certain that there would be no adverse impacts on the integrity of Habitats Sites rather than relying on threshold values as a determinant.

2.4 National Planning Policy

National Planning Policy Framework 2024 (NPPF)

2.4.1 The NPPF[6] sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans (including LTPs) and other development can be produced. It must be taken into account in preparing the LTP and is a material consideration in planning decisions.

2.4.2 The NPPF (under paragraph 192) states that when considering the conservation and enhancement of the natural environment, with regard to habitats and biodiversity, the Local Planning Authority should:

a) 'Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.'

2.4.3 In addition, the NPPF states the following with regards to designated sites:

'(194) The following should be given the same protection as habitats sites:

a) Potential Special Protection Areas and possible Special Areas of Conservation;

[6] NPPF 2024: https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

b) Listed or proposed Ramsar sites; and

c) Sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

(195) The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats sites (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.'

2.5 Relevant Guidance (Primary Resources)

Natural England's Internal Guidance

2.5.1 In June 2018, Natural England published guidance[7] on their approach to advising Competent Authorities on the assessment of road traffic emissions under the Habitats Regulations. The document draws upon Annex F of the DMRB (now withdrawn) but takes into account the Wealden Judgement and need to assess 'in-combination' effects on Habitats sites as a result of air pollution.

2.5.2 The guidance provides a framework around the assessment of road traffic emissions and subsequent effects on Habitats sites. Notably:

- Step 1 – Does the proposal give rise to emissions which are likely to reach a Habitats site;
- Step 2 – Are there qualifying features within 200m of a road sensitive to air pollution;
- Step 3 – Could the sensitive qualifying features of the site be exposed to emissions; and
- Step 4 – Application of the Screening Thresholds:

[7] Natural England (June 2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Accessed on 31/03/2022 at: http://publications.naturalengland.org.uk/publication/4720542048845824)

- Step 4a: apply the threshold alone;
- Step 4b: apply the threshold in-combination with emissions from other road traffic plans and projects; and
- Step 4c: apply the threshold in-combination with emissions from other non-road plans and projects.

- Step 5: Advise on the need for AA where thresholds are exceeded, either alone or in-combination.

2.5.3 The relevant thresholds in relation to Step 4 are as follows:

- Changes in AADT of 1,000 vehicles a day (or more); and/or
- Changes of 1% of the relevant Critical Load and/or Level as a result of the plan/project.

IAQM's GUIDE To the Assessment of Air Quality Impacts on Designated Nature Conservation Sites

2.5.4 The Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites (IAQM, May 2020)[8] provides advice for ecologists relating to air quality assessments (AQAs), to evaluate the effects of air pollution on habitats and species, by increasing their understanding of the information provided by air quality specialists. The Guide focusses on the AQA process and no specific detail on the subsequent stage of the overall process, i.e. the assessment of the effects that air quality impacts may have on habitats and species, is provided in this guidance.

CIEEM Advisory Note: Ecological Assessment of Air Quality Impacts

2.5.5 This guidance[9] from the Chartered Institute of Ecology and Environmental Management (CIEEM) is intended to take ecologists (and air quality specialists)

[8] Holman et al (2020). *A guide to the assessment of air quality impacts on designated nature conservation sites – v1.1* Available at: https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2020.pdf

[9] CIEEM (January 2021) *Advisory Note: Ecological Assessment of Air Quality Impacts.* Available at: https://cieem.net/resource/advisory-note-ecological-assessment-of-air-quality-

through the issues that they should consider in order to make an informed judgement as to the ecological effects of changes in pollution concentrations and deposition rates. The approaches set out build on the advice and guidance from Natural England and IAQM but focus on the ecologist role to interpret the numerical output of air quality assessments to reach evidence-based conclusions on ecological significance.

Updated DMRB (LA 115 – Habitats Regulations Assessment)

2.5.6 The DMRB document LA 115 - Habitats Regulations Assessment[10] states that HRA shall include systematic collection, assessment, and reporting of the implications of highways projects on Habitats sites and shall be implemented forthwith on all projects involving HRA on the motorway and all-purpose trunk roads. In addition to identifying the habitats site designations to be considered within HRA and the format of reporting, the document sets out (principles and purpose) that:

- The precautionary principle shall be applied in reporting through all HRA stages.
- Recourse to the precautionary principle may be relevant when there:
  a) are "potentially negative effects"; or
  b) is "insufficiency of the data, which makes it impossible to determine with sufficient certainty the risk in question".
- Site conservation objectives should prevail where there is uncertainty.
- Adverse effects should be reported in the HRA in the absence of evidence to the contrary.

impacts/#:~:text=Advisory%20Note%3A%20Ecological%20Assessment%20of%20Air%20Quality%20Impacts.,of%20changes%20in%20pollution%20concentrations%20and%20deposition%20rates .

[10] Highways England (November 2019) Design Manual for Roads and Bridges, LA115 – Habitats Regulations Assessment. Available at: https://standardsforhighways.co.uk/dmrb/search/e2fdab58-d293-4af7-b737-b55e08e045ae

Local policies

2.5.7 Great Yarmouth Borough Council[11] states "*New developments have the potential to impact on internationally protected wildlife sites (as defined as habitats sites in the National Planning Policy Framework) within and close to the borough planning area. New development is therefore required to avoid or mitigate such impacts. If this cannot be achieved, permission cannot be granted*."

Additional guidance

2.5.8 Multiple sources of guidance are available to HRA practitioners which are specific to interpretation of assessment processes or technical areas of assessment. Where relevant, these are cited within this report.

[11] Great Yarmouth Borough Council Habitats regulations assessment guidance and forms. Available at: Habitats regulations assessment guidance and forms - Great Yarmouth Borough Council(Accessed 25/08/2025)

3 Methodology

3.1.1 This report presents the findings of the screening undertaken as part of Stage 1 of the HRA process to establish whether or not the likely impacts of the GYTS could have LSE on Habitats sites.

3.1.2 This document provides this information by undertaking the following steps:

- Determining whether the plan is directly connected with, or necessary for, the management of applicable Habitats sites;
- Describing the plan impacts that may have the potential for significant effects upon applicable Habitats sites and description of the potential pathways of impacts alone; and
- Discussion about the potential pathways of impacts in-combination with other plans and projects.

3.1.3 The precautionary principle is applied at all stages of the HRA process. In relation to screening, this means that plans and projects where effects are considered likely and those where uncertainty exists as to whether effects are likely to be significant must be subject to the second stage of the HRA process, AA.

3.1.4 The first part of the screening is a review to establish whether the GYTS should be subject to HRA.

3.1.5 The second part comprises the information gathering stage and in particular the identification of Habitats sites which will likely require consideration and on which background information is collated. This information includes the qualifying features of these sites, the conservation objectives and the sensitivities of those sites.

3.1.6 The final element of the information gathering stage is to review the availability of relevant data sets and sources which will form the evidence base of the assessment of the GYTS Policies (which are set within the GYTS objectives) alone and in-combination with other relevant plans and projects.

3.2 Approach to Stage 1 Screening

Overview

3.2.1 The guidance referred to in Section 2.5 has been referred to in undertaking the Stage 1 screening of the GYTS policies. The approaches set out by the guidance have been interpreted to the level of detail available within the policies based on the descriptions contained within the GYTS, noting that the Plan is a high-level document. At a greater level of detail, and as normally required with specific project level HRAs for example, the HRA stages have more specific data requirements.

Air Quality Input

3.2.2 The sensitivity of Habitats sites to changes in air quality is fundamental to the screening and, if required, subsequent AA of the GYTS and associated projects. Three Habitats sites within the ZoI are identified as having sensitivity to changes in air quality (see Section 5.3.12 and **Table 2**). In particular, the lower Critical Load for N Dep is already being exceeded at locations within the three identified Habitats sites, making them particularly sensitive to any changes in air quality that may arise as a result of the GYTS objectives and policies. There are a number of Habitats where the relevant Critical Level for Ammonia (NH_3) is exceeded (or exceeds when applying the most precautionary Critical Level of 1µg/m^3).

3.2.3 Unlike Local Plan assessments or development focussed HRA, where the traffic change is directly linked to the number of dwellings or employment floorspace proposed, it is not possible to calculate traffic change due to the GYTS in the same way as:

- Impacts of many of the measures (e.g. sustainable transport measures, measures to promote modal shift) are not easily quantifiable; and/or
- Detail regarding the proposed interventions/infrastructure is not yet known and time frames for implementation are yet to be established.

3.2.4 Therefore, in determining the potential for LSE, reference has been made to the traffic data thresholds contained within the guidance documents produced by Natural

England (July 2018)[12] and the IAQM (May 2020)[13]. However, these thresholds have only been considered qualitatively and at a high level. Moreover, professional judgement has been used to determine the potential for LSE taking into account:

- The findings of the baseline review (detailed within Section 5);
- The relevant ZoI for the GYTS objectives and interventions and which Habitats sites fall within the identified ZoI;
- The proximity of the identified interventions to the nearest Habitat site(s), where provided;
- The distance of the Habitats site(s) to the nearest road likely to be affected, where available; and
- The likely effects of the objective or interventions on local air quality (e.g. positive due to modal shift, negative due to the potential redistribution of traffic on the local road network).

3.2.5 The main air quality effects on Habitats sites as a result of the GYTS are considered to comprise:

- Effects arising due to construction phase effects of any interventions (including on-site construction activities and/or construction traffic);
- A reduction in traffic due to the promotion of sustainable transport measures and measures to encourage modal shift; and
- Effects associated with the redistribution of traffic on the local road network which could result in more traffic passing within 200m of Habitats sites.

[12] Natural England (June 2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations. Available online: http://publications.naturalengland.org.uk/publication/4720542048845824] (Accessed April 2024)

[13] Holman et al (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – v1.1 Available online: https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2020.pdf

Public Access/disturbance

3.2.6 The sensitivity of Habitats sites due to increase in public access or disturbance is also fundamental to the screening and, if required, subsequent AA of the GYTS and associated projects. Four Habitats sites within the ZoI are identified as having sensitivity to changes in recreational disturbance (**Table 2**).

3.2.7 Similar to the air quality section, in 6.2.2, it is not possible to calculate increase or change in public access and disturbance near or within the Habitats sites, due to the GYTS in the same way as:

- Impacts of many of the measures (e.g. sustainable transport measures, measures to promote modal shift) are not easily quantifiable; and/or
- Detail regarding the proposed interventions/infrastructure is not yet known and time frames for implementation are yet to be established.

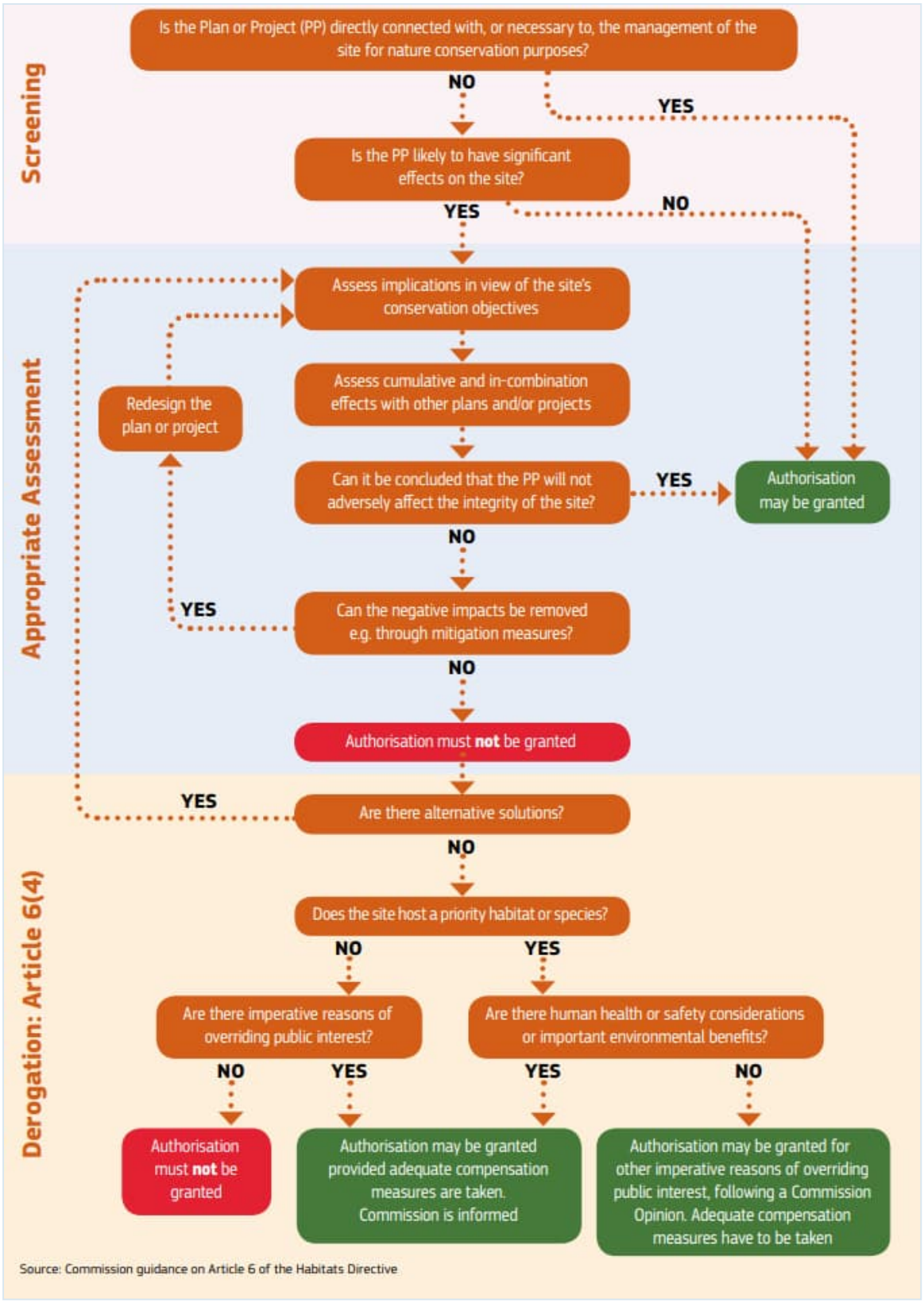
3.2.8 The main factors that might increase public access and disturbance to the Habitats sites as a result of the GYTS are considered to comprise:

- Increase in flow of tourists, pedestrians and cyclists in and around the Habitats sites due to increase in connectivity.

Infrastructure

3.2.9 There is potential for changes to ground and surface water, including water quality, due to growth in infrastructure under GYTS policies. Due to the high-level nature of the GYTS, exact construction locations and designs are not known at this stage.

Figure 0-1 - Flow Chart Including Screening and Appropriate Assessment Stages in the HRA process (after European Commission, 2018)



4 HRA Requirement

4.1.1 The review looked to specifically answer each of the questions set out in the HRA review methodology. It should be noted that the level of detail of the GYTS available at the time of this review only allows for an anticipated assessment of the need for HRA based on experience of similar plans and projects (see **Table 1** below).

Table 1 – Is HRA Required?

Question	Response
Is the whole of the plan directly connected with, or necessary to, the management of a Habitats site for nature conservation purposes?	No
Is the plan a 'strategic development plan' or 'local development plan' or 'supplementary guidance' or a core path plan or a revision thereof?	Yes
Does the plan provide a framework for deciding applications for project consents and / or does it influence decision makers on the outcome of applications for project consents?	Yes
Does the plan contain a programme, or policies, or proposals which could affect one or more particular Habitats site?	Yes
Is the plan a general statement of policy showing only the general political will or intention of the plan-making body, and no effect on any particular Habitats site can reasonably be predicted?	No

4.1.2 When the answer to either questions (1) or (5) is 'no', but the answer to any of questions (2), (3) or (4) is 'yes', then the requirement for further HRA is identified.

4.1.3 In this case, the answers to questions (1) and (5) are both 'no', while the answers to questions (2) to (4) are all 'yes'. It is therefore confirmed, based on the availability of current information, that the GYTS for NCC does therefore require HRA.

5 Identification of Habitats Sites

5.1 Overview

5.1.1 The following section provides a summary of the results of the review of Habitats sites data which will form the baseline for subsequent stages of HRA. It is necessary to consider all the Habitats sites that form part of the national site network (SACs, SPAs and proposed or candidate SPAs or SACs, expanded by the NPPF to include Ramsar sites and compensatory sites) within a broad area or ZoI of the GYTS and the specific policies therein.

5.2 Habitats Sites

5.2.1 Relevant Habitats sites include all those that fall within a potential ZoI for the relevant policies and visions of the GYTS. The ZoI is defined by the potential effects arising from the plan and the available pathways for those effects to reach and impact the interest features of Habitats sites.

5.2.2 In order to identify all strategic corridors where potential direct, indirect and in-combination effects could reasonably be considered possible, an initial buffer of 10km around the Great Yarmouth district boundary was applied. The premise is that 10km represents the average trip length from the National Transport Survey, is included in Joint Nature Conservation Committee (JNCC) guidance for air quality (Chapman, C. & Kite, B. 2021)[14] and traffic data for this buffer will be consulted and used in any detailed analysis or at AA stage.

5.2.3 Additionally, all SACs featuring bats as qualifying features within 30kms of the Proposed Development were identified. The 30km search distance is generally considered as the Core Sustenance Zone (CSZ) for most bats according to the Bat Mitigation Guidelines 2023[15] and the DMRB document LA 115.

5.2.4 Twelve Habitats sites lie within the potential ZoI for the GYTS, comprising five SPA, two Ramsar sites and four SACs (see **Figure 2** and **Appendix B**). One site with bats

[14] Chapman, C. & Kite, B. 2021. *Guidance on Decision-Making Thresholds for Air Pollution*. JNCC Report No. 696 (Main Report), JNCC, Peterborough, ISSN 0963-8091.
[15] Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6

as qualifying features was identified, which lies within the 30km search area. No other SACs with bats as qualifying features were found in the 30km search area. Information summarising the vulnerabilities of each Habitats site is given in Table 2.

5.2.5 Air quality effects due to changes in traffic are only likely to occur where the Habitats sites are located within 200m of the road edge (of roads experiencing significant[16] changes in traffic due to the implementation of the GYTS).

5.2.6 The Sites and their locations with respect to the chosen study area council are listed as follows:

- The Broads SAC - within the Great Yarmouth district boundary;
- Great Yarmouth North Denes SPA - within the Great Yarmouth district boundary;
- Winterton-Horsey Dunes SAC - within and adjacent to the Great Yarmouth district boundary, to the north;
- Breydon Water SPA/Ramsar site - within and adjacent to the Great Yarmouth district boundary, to the west;
- Broadland SPA/Ramsar site - adjacent to the Great Yarmouth district boundary, to the west;
- Southern North Sea SAC - adjacent to the Great Yarmouth district boundary, towards the east;
- Greater Wash SPA - adjacent to the Great Yarmouth district boundary, to the north;
- Outer Thames Estuary SPA - adjacent to the Great Yarmouth district boundary, to the east;
- Haisborough, Hammond and Winterton SAC - 7kms to the east of the Great Yarmouth district boundary; and

[16] Defined by the application of industry thresholds including those published by Natural England and the Institute of Air Quality Management (IAQM).

- Paston Great Barn SAC - 18.5kms to the north of the Great Yarmouth district boundary.

5.2.7 The reasons for designation of these sites and their known vulnerabilities are also summarised in **Appendix B**, which has been collated from the Natura 2000 standard data forms (JNCC, 2016) and Site Improvement Plans (Natural England, publication years vary).

5.2.8 With regard for the qualifying features and information on vulnerability of the sites detailed in **Appendix B**, the broad conservation objectives for SACs and SPAs are to:

'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/aims of the Wild Birds Directive, by maintaining or restoring:

- *The extent and distribution of 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 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.'*

5.2.9 Specific conservation objectives for Ramsar sites are not currently available but are taken from the conservation objectives for the corresponding SAC/SPA if they overlap.

5.3 Information relating other potential effects on Habitats sites

5.3.1 **Table 2** below summarises other pressures and threats listed on the Site Improvement Plans (SIPs) for SPAs and SACs that will need to be considered during screening and, if required, AA of the GYTS.

5.3.2 It should be noted that SIPs have not been produced for Ramsar sites and so they are not included within this table. However, all Ramsar sites located within the 10km ZoI are overlapped by SACs and/or SPAs (see **Figure 2**). As such, the relevant pressures and threats are captured in this table against those Habitats sites.

Table 2 – Pressures and threats listed on Habitats site's SIPs[17]

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
The Broads SAC- Within the Site		P/ T	P/ T	T			P/ T	T	P	T				P	T- climate change P- Siltation P- Inappropriate water levels P- Water abstraction T- Inappropriate ditch management P- Drainage T- Direct impact from third party
Broadland SPA/Ramsar site-		P/ T	P/ T	T			P/ T	T	P	T				P	T- climate change P- Siltation

17 P = Pressure, T = Threat

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
Adjacent to the Site, to the west															P- Inappropriate water levels P- Water abstraction T- Inappropriate ditch management P- Drainage T- Direct impact from third party
Breydon Water SPA/Ramsar site- Within and adjacent to the			T	T			T								T- Shooting/scaring P/T- Fisheries: Commercial marine and estuarine

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
Site, to the west															
Great Yarmouth North Denes SPA- Within the Site	P		T	T				T	P/ T				T	T	P- Inappropriate costal management T- Inappropriate pest control
Winterton-Horsey Dunes SAC- Within	P		T	T				T	P/ T				T	T	P- Inappropriate costal management T- Inappropriate pest control

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
and adjacent to the Site, to the north															
Southern North Sea SAC- Adjacent to the Site, towards the east	NA														

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
Greater Wash SPA- Adjacent to the Site, to the north				T					T				T		P- Inappropriate water levels T- Siltation T- Fisheries: Recreational marine and estuarine T- Inappropriate costal management T- Fisheries: Commercial marine and estuarine T- Predation
Outer Thames Estuary SPA- Adjacent to the															P- Fisheries: Commercial marine and estuarine

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
Site, to the east															
Haisborough, Hammond and Winterton SAC- 7kms to the east															P- Feature location/ extent/ condition unknown P/T- Fisheries: Commercial marine and estuarine
Paston Great Barn SAC-				T											T- Change to site conditions T- Wildfire/arson

Site Name	Air pollution: impact	Water pollution	Hydrological	Public access/	Habitat	Physical	Change in land	Inappropriate Scrub	Invasive species	Changes in species	Forestry and	Disease	Costal Squeeze	Undergrazing	Other
18.5kms to the north of the Site															T- Offsite habitat availability/ management T- Predation

6 HRA Stage 1 Screening of the GYTS

6.1 Related Transport Projects

6.1.1 A list of transport projects within the GYTS Implementation Plan, with potential effects of them on Designated sites is given in **Appendix D**.

6.2 Air Quality Commentary

6.2.1 Whilst all Habitats sites within 200m of the road edge could be affected as a result of changes in traffic due to the implementation of the GYTS, the greatest risk of impacts occurs where air pollution is listed as a pressure or threat (see **Table 2**) and where there are strategic or main roads within 200m of the identified Habitats site. Of those Habitats sites where air pollution is listed as a pressure or threat, the following are considered to be at the highest risk due to their proximity to major roads and planned developments:

- Great Yarmouth North Denes SPA lies within the border of the Great Yarmouth District Boundary, and a lot of the Proposed Development within the GYTS is planned along the areas adjacent to the SPA.
- Winterton-Horsey Dunes SAC lies within and adjacent to the Yarmouth District Boundary , to the north.

6.3 Public Access/disturbance commentary

6.3.1 All Habitats sites in close proximity of a settlement or highway could be affected as a result of increase in public access to the Habitats sites. Of those Habitats sites where public access/disturbance is listed as a pressure or threat, the following are considered to be at the highest risk due to their proximity to major roads and planned developments:

- The Broads SAC is within the Site

- Breydon Water SPA/Ramsar site is within and adjacent to the Site, to the west
- Great Yarmouth North Denes SPA is within the Site
- Winterton-Horsey Dunes SAC is within and adjacent to the Site, to the north
- Broadland SPA/Ramsar site is adjacent to the Site, to the west
- Greater Wash SPA is adjacent to the Site, to the north

6.3.2 The following is considered to be at low risk of changes in public access/disturbance as a result of the GYTS due to being located well away from major roads and urban centres:

- Paston Great Barn SAC

6.4 Screening Assessment

6.4.1 **Table 3** lists the GYTS policies, grouped by their overarching strategies, as given within the GYTS. It then sets out the findings of the Stage 1 screening process and identifies where the potential for LSE arises.

Table 3 – Stage 1 Screening Assessment

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
Growth Objective 1: Support the delivery of planned housing and business growth and development in the Borough, by using improved transport links to unlock economic investment.	**Policy 1: Supporting growth and new development** Norfolk County Council, working with partners and developers, will seek to ensure transport measures, including sustainable transport options, support new housing developments and employment sites	**Growth target:** Secure transport network improvements as part of new housing and employment sites. To support this objective, these policies and the target we will: Seek the provision of strategic infrastructure that supports residential and commercial developments Work in partnership with Great Yarmouth Borough Council to help shape delivery of new housing and jobs	The proposed transport policies focus on improving and maintaining the road network, supporting sustainable freight movement, and encouraging public transport and non-motorised travel. Most development will concentrate in larger urban areas, with policies expected to benefit air quality and protected habitats. Overall, the strategy aims to reduce emissions, enhance connectivity, and ensure growth supports environmental health.	Policy 1 Screened In

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
		Offer development management advice to ensure the provision of measures in planning permissions to mitigate any adverse effects of new development on the transport network Seek to mitigate any adverse effects of new development on the transport network Work with National Highways to improve connectivity for the Port and freight and Seek to secure funding to develop and deliver projects in the Implementation Plan.	However, some freight and port policies may lead to future infrastructure projects and increased usage in new locations, warranting further assessment.	

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
Connectivity **Objective 2: Enhance connectivity and accessibility for all within Great Yarmouth.**	**Policy 2: Strategic connections** Norfolk County Council, working in partnership, will seek to improve strategic connections between Great Yarmouth, the port, the surrounding villages, Norwich, Norfolk and the wider region. We will seek improvements to strategic connections including the A47, A149 and the railway line to Norwich. **Policy 3: Parking** Norfolk County Council, working with partners, will seek to	**Connectivity target:** Secure future improvements to the strategic road and rail network. To support this objective, these policies and the target we will: Work with Great Yarmouth Borough Council, Department for Transport, National Highways and Transport East to campaign for further investment Develop local strategic transport projects in the Norfolk Strategic	Policy 2 aims at improving transport networks, including highways and railways. These highways and railway routes are a part of an existing and working network. This improvement in transport might also lead to increase in tourism. Due to this, there might be an increase in vehicles, which might increase the levels of pollution, and might also increase the disturbance on the Designated sites due to public access. Due to the high-level nature of the policy, works might lead to a LSE which	Policy 2 Screened In Policy 3 Screened Out

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
	develop car parking policy for on street and off-street public parking that balances the needs of residents and visitors whilst still supporting the promotion of public transport and active travel.	Infrastructure Delivery Plan Plan accessibility as part of service delivery, considering how people will be able to access facilities and key services during the planning stage, making them suitable for all users including people with disabilities or restricted mobility Make the case for investment in the Strategic Road Network (A47) as part of the A47 Alliance. Norfolk County Council does not manage or maintain the A47 but wants to seek	could require further assessment. Policy 3 is a general policy to provide ample parking to support Policy 2. No anticipated pathway which could give rise to LSE.	

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
		improvements, seeking quick, reliable journey times for longer-distance journeys where there is the highest need Undertake a review of the current Route Hierarchy in Great Yarmouth to reflect the recent changes in traffic flow and pattern brought about by Herring Bridge and the Market Gates scheme. This will support current and future growth in employment, tourism and the offshore energy sector Consider transport projects that support		

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
		improved access to major destinations. Seek to secure funding to develop and deliver projects in the Implementation Plan.		
Public Transport **Objective 3: Encourage greater use of public transport in Great Yarmouth.**	**Policy 5: Rail** Norfolk County Council, working with partners, will seek to support rail operators to make improvements to Great Yarmouth Station and to the Wherry Lines services for the public and freight. This will include aiming to make them more reliable, accessible,	**Public transport target**: Grow annual bus and rail patronage. To support this objective, these policies and the target we will: Deliver Bus Service Improvement Plan projects to achieve its key outcomes including increased patronage and accessibility in rural areas	These policies aim at promoting public transport through railways and bus services, not only by the general public, but also for freight, which will aid in improving overall air quality and decreasing pollution. No anticipated pathway which could give rise to LSE. Policy likely to benefit local air quality and Habitats sites. No anticipated pathway which could give rise to	Policy 5 Screened Out

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
	integrated, quicker. We will also seek improved frequency and earlier and later services.	Work closely with bus operators to encourage new and expanded services Engage with rail operators, Network Rail and Great British Railways to ensure stations and changes to services are meeting the needs of local people Support improvements as proposed in the Norfolk Rail Prospectus Seek to secure funding to develop and deliver projects in the Implementation Plan.	LSE. Policy likely to benefit local air quality and Habitats sites.	
Active Travel	**Policy 6: Active travel**	**Active travel target:** Increase in the number	This is a general policy to promote active travel,	Policy 6 Screened Out

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
Objective 4: Support modal shift from private car to active travel in Great Yarmouth.	Norfolk County Council, will seek to support and promote the use and benefits of active and sustainable modes of travel by walking, wheeling and cycling to reduce dependency on cars.	of people walking, wheeling and cycling to support the government's ambitious target for half of all journeys in towns and cities to be walked or cycled by 2030. To support this objective, these policies and the target we will: Deliver Great Yarmouth Local Cycling and Walking Infrastructure Plan proposals Reprioritise space, especially within urban areas, and give priority to walking, wheeling and cycling and public	leading to lower emission and sustainable travel solutions. No anticipated pathway which could give rise to LSE. Policy likely to benefit local air quality and Habitats sites.	

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
		transport, leading to more sustainable travel Create and promote attractive and accessible cycling, wheeling and walking routes for all, for example by making streets easier to cross, with places to stop and rest. Provide more secure, accessible cycle parking and improved cycle routes Seek to support shared micromobility schemes Seek to secure funding to develop and deliver projects in the Implementation Plan.		

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
Environment **Objective 5: Improve local air quality and Great Yarmouth's natural environment and reduce overall transport emissions.**	**Policy 7: Climate change resilience** **Norfolk County Council, working with partners, will seek to contribute to making the transport network zero emission by 2050 and resilient to the impacts of severe weather and climate change.** **Policy 8: Improved air quality Norfolk County Council, working with partners, will seek to reduce emissions from vehicles to improve air quality.**	**Environment target:** Continue to have no Air Quality Management Areas. To support this objective, these policies and the target we will: Focus on the reduction of emissions through a range of actions including delivery of the Electric Vehicle Strategy Seek to support improvements to support the Climate Strategy and work towards carbon neutrality	Policies 7 & 8 are aimed at improving the transport network, making it resilient and improving air quality as a product. No anticipated pathway which could give rise to LSE. Policy likely to benefit local air quality and Habitats sites.	Policies 7 & 8 are Screened Out

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
		Focus on identifying the key risks from climate change and directing efforts on tackling these where they are likely to be most disruptive to journeys, especially on those parts of the network identified as critical to keep functioning Look to proactively improve air quality regardless of Air Quality Management Area status Seek to secure funding to develop and deliver projects in the Implementation Plan.		

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
Safety **Objective 6: Improve road safety in Great Yarmouth.**	**Policy 9: Road traffic harm reduction** Norfolk County Council, working with partners, will seek to reduce road traffic collisions and transport related casualties. Improvement schemes will aim to address the fear of road traffic affecting vulnerable road users	**Safety target:** Reduce accident numbers from current levels. To support this objective, these policies and the target we will: Ensure road safety considerations are embedded in all transport interventions Priority will be given to reducing the rate of killed or seriously injured casualties Support the Norfolk Road Safety Partnerships Safe Systems Framework, and work with road safety partners to	This is a policy aimed at improving the safety on roads, but improving existing infrastructure. No anticipated pathway which could give rise to LSE.	Policy 9 Screened Out

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
		contribute to a reduction in the number of people killed and seriously injured on the road network Seek to secure funding to develop and deliver projects in the Implementation Plan.		
Culture and Heritage **Objective 7: Protect and enhance Great Yarmouth's heritage and cultural environment through place-making.**	**Policy 10: Supporting culture, heritage and tourism** Norfolk County Council, working with partners, will seek to protect existing green infrastructure and where possible, enhance the public realm for the benefit	**Culture and heritage target:** Increasing tourist numbers. To support this objective, these policies and the target we will: Seek to improve quality of place, conserving and enhancing the built and historic environments and	Policy 10 aims at not only improving the existing green infrastructure, but to enhance the public realm for residents, and tourists, which might increase the influx of tourists in the County. Due to this, there might be an increase in vehicles, which might increase the levels of pollution, and	Policy 10 Screened In

Draft GYTS Strategies	Policy	Strategy Targets	Screening Detail	Screened in?
	of residents, visitors and tourists using a healthy streets approach to make streets attractive.	public realm, when improvements are made to the transport network Ensure transport interventions support sustainable tourism and Seek to secure funding to develop and deliver projects in the Implementation Plan.	might also increase the disturbance on the Designated sites due to public access. Due to the high-level nature of the policy, works might lead to a LSE which could require further assessment.	

6.5 Summary of Screening Exercise

6.5.1 Following the screening exercise, all but three Policy Actions set out in the GYTS have been **Screened Out** on the basis that they are likely to have either a nugatory or general positive impact on Habitats sites in the ZoI, for example as a result of being communication-based or where the Policy Actions relate to the review or development of plans and strategies which require consideration of their own requirements for HRA.

6.5.2 Three policies have been **Screened In** for the potential to either increase air pollution or increase in disturbance due to public access.

6.6 Potential in-combination effects

6.6.1 There is the potential for additional effects, or an increase in the severity of effects, arising 'in-combination' with other plans and projects – particularly in relation to combined impacts upon traffic movements and corresponding changes to air quality. It will be necessary to consider potential in-combination effects as projects come forward under the GYTS as part of the further assessment described above.

7 Conclusions

7.1.1 This document provides guidance on the likely data sources, information requirements and the process of HRA screening and other stages of assessment if necessary. It also provides an indication of where the ecological implications of the GYTS will lie and which Habitats sites are vulnerable to known pressures, threats and existing air quality impacts.

7.1.2 There are 11 Habitats sites within Great Yarmouth Borough and 10km of its boundary, and one Habitats site with bats within 30kms of it. Four Habitats sites are present within the Great Yarmouth administrative boundary, and the rest are present within a 10km ZoI.

7.1.3 The GYTS proposes an approach for addressing current and future transport issues within the county and, in this document, it has been subject to HRA screening for potential LSE on Habitats sites at a strategic level.

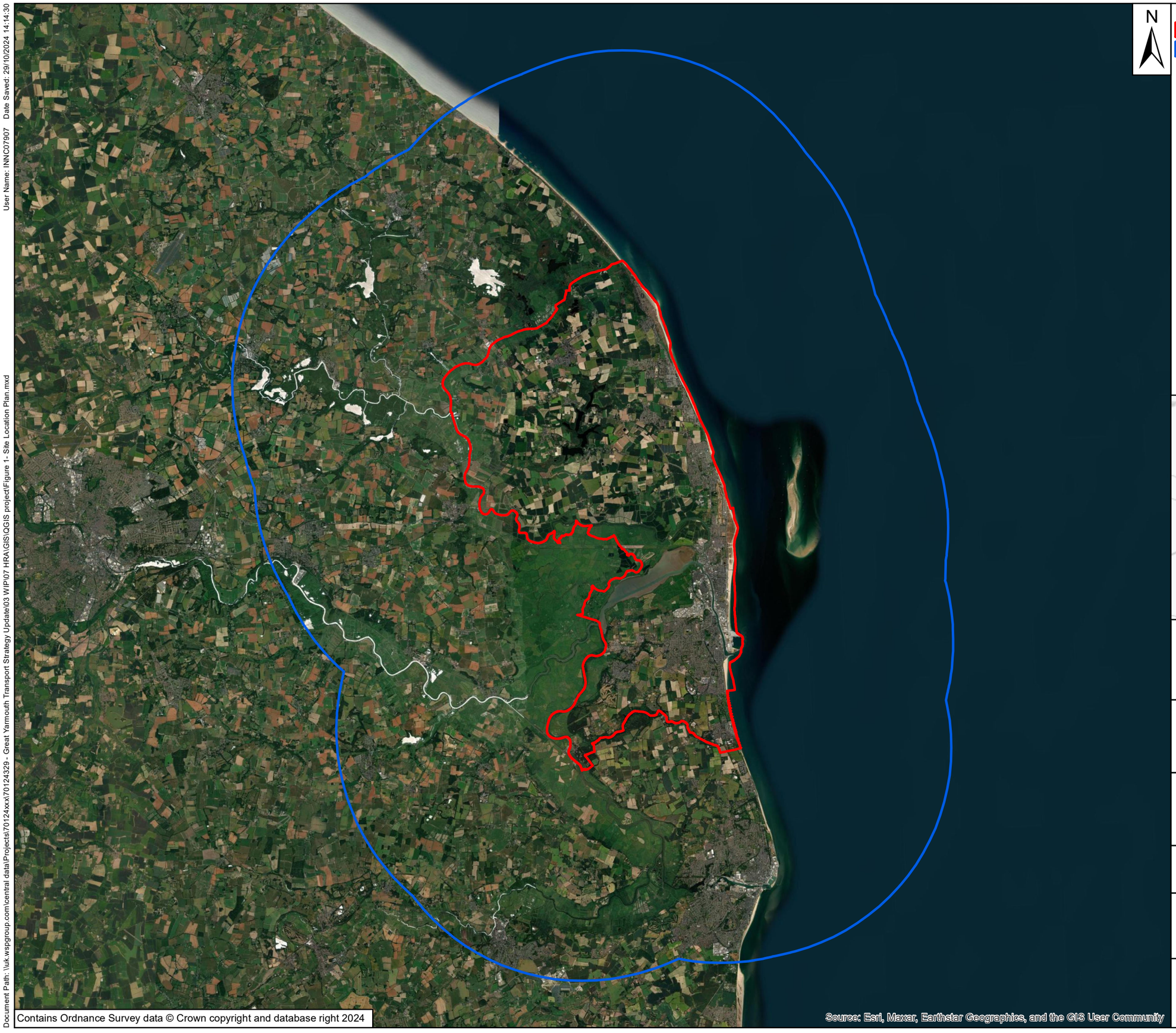
7.1.4 All but three of the Policy Actions proposed have been screened out due to their nugatory or likely beneficial effects on Habitats sites.

7.1.5 Three Policy Actions have been screened in due to their potential to increase air pollution, and also disturbance to the Habitats sites due to increase in public access.

7.1.6 As there are pathways for LSEs (including de minimis) for features of European sites from the Proposed Project there is a requirement for Stage 2 of HRA, Appropriate Assessment, to be undertaken.

8 Figures

- Figure 8-1 – Norfolk Council Boundary
- Figure 8-2 – Internationally Designated Sites within 10km
- Figure 8-3 – SACs with Bats as a Qualifying Features within 30km



Client:

Norfolk County Council

Project:

Great Yarmouth Transport Strategy

Title

District Boundary and 10km Study Area

Drawing No:	Figure 1	Drawn:	NC
Date:	20/11/2024	Checked:	MP
Scale:	173,300 @ A3	Approved:	IE

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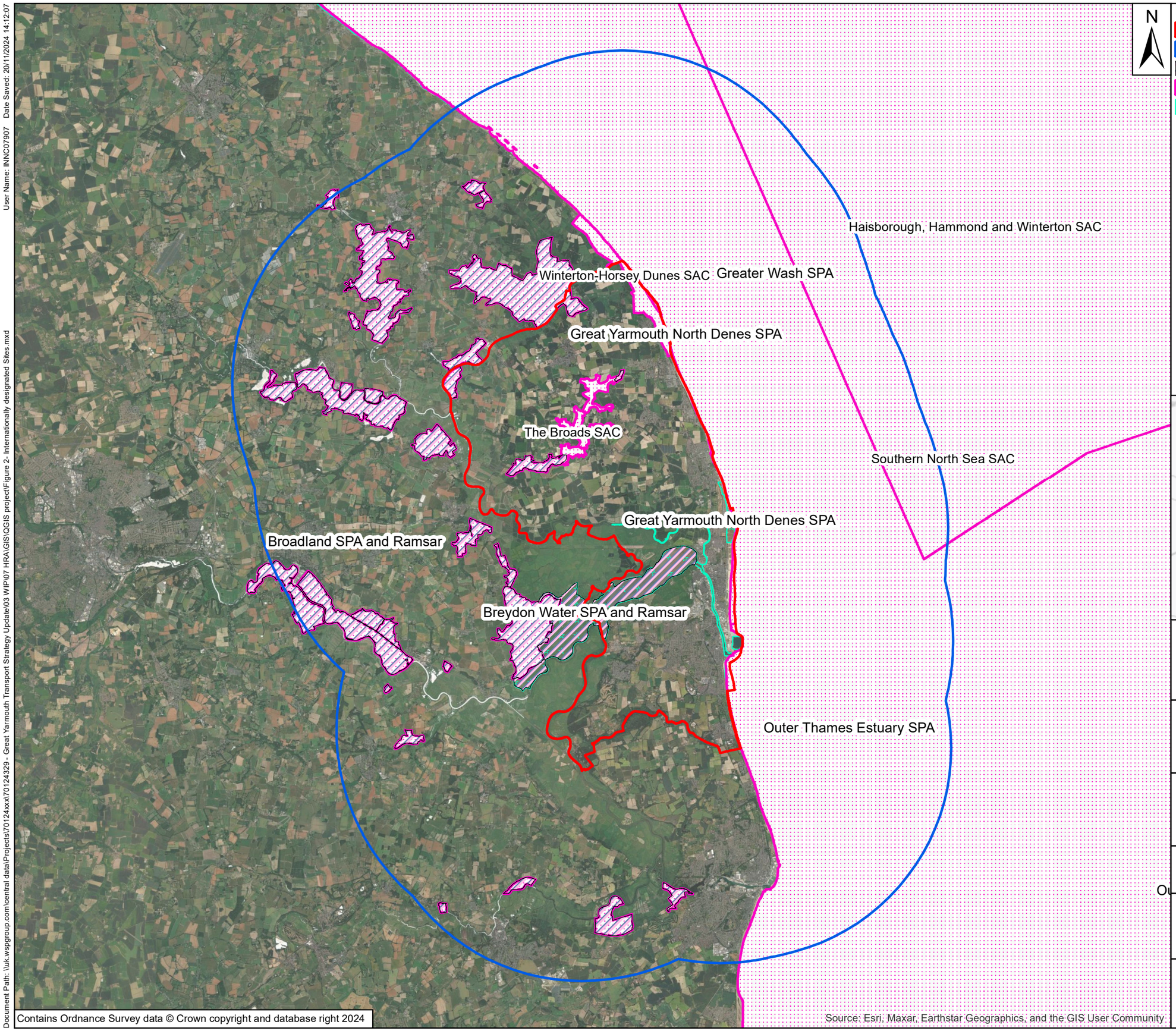

Client: Norfolk County Council

Project: Great Yarmouth Transport Strategy

Title: National Sites Network (10km)

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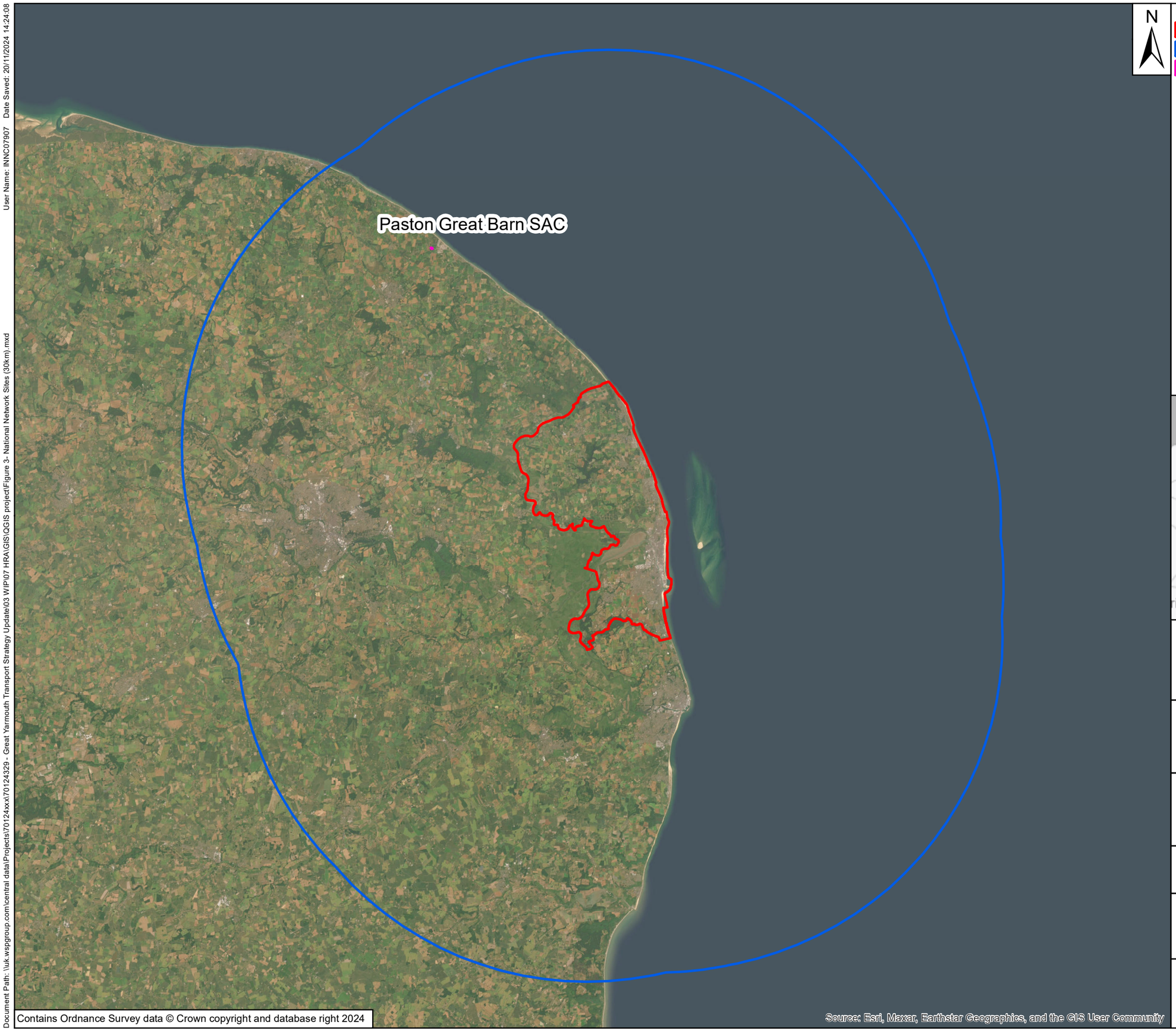

Client: Norfolk County Council

Project: Great Yarmouth Transport Strategy

Title: National Sites Network (30km)

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Appendix A – Legislative Background, Policy Context and CJEU Rulings

Legislative background

The Conservation of Habitats and Species Regulations (2017, as amended) (the 'Habitats Regulations') protects habitats and species of Habitats Sites. The Habitats Regulations establishes a network of internationally important sites designated for their ecological status. SACs are designated under the Habitats Regulations and promote the protection of flora, fauna and habitats. SPAs are designated in order to protect vulnerable and migratory bird species. These sites combine to create a Europe-wide 'Natura 2000' network of designated sites.

Defra guidance (2021) states that Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) in the UK no longer form part of the EU's Natura 2000 ecological network. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 have created a national site network on land and at sea, including both the inshore and offshore marine areas in the UK. The national site network includes:

- Existing SACs and SPAs; and
- New SACs and SPAs designated under these Regulations.

Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new national site network.

Under the Habitats Regulations 'Competent Authorities' must assess Plans, in this case the GYTS and associated plans, for their potential to cause Likely Significant Effects (LSE) on European sites. Where the Plan may lead to LSE it must be subject to an HRA to determine whether there will be adverse effects to any European Sites. Any Plan that would lead to adverse effects on the integrity of European Site(s) cannot be permitted without meeting strict additional tests.

According to the Habitats Regulations, any plan or project likely to have a significant effect on a Habitats Site, either individually or in combination with other plans or projects should undergo an appropriate assessment to determine its implications for the site. The Competent Authority can only agree

to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned.

The purpose of the Habitats Sites network is preservation of examples of species and habitats across the UK and Europe, rather than preservation of individual sites. In exceptional circumstances, a plan or project may still be allowed to go ahead, in spite of a negative assessment, provided there are no alternative solutions and the plan or project is considered to be of overriding public interest[18]. In such cases the UK Government must take appropriate compensatory measures to ensure that the overall coherence of the Natura 2000 Network is protected.

Regulation 63 (1) of the Habitats Regulations states that '…a Competent Authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which—

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

is not directly connected with or necessary to the management of that site,

—must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.'

[18] An exact definition of 'imperative reasons of overriding public interest' is not provided, but EC guidance states
'It is reasonable to consider that the "imperative reasons of overriding public interest, including those of social and economic nature" refer to situations where plans or projects envisaged prove to be indispensable:
- within the framework of actions or policies aiming to protect fundamental values for the citizens' life (health, safety, environment);
- within the framework of fundamental policies for the State and the Society;
- within the framework of carrying out activities of economic or social nature, fulfilling specific obligations of public service.'

The Habitats Regulations also make allowance for projects or plans to be completed if they satisfy 'imperative reasons of overriding public interest'[19]. Regulation 64 relates to such situations.

The requirements of the Habitats Regulations are usually met by undertaking an initial two-stage approach; Stage 1 screening of potential LSEs on the qualifying features and conservation objectives of European sites, and then, for those Habitats sites where this applies, a Stage 2 'Appropriate Assessment' of the adverse effects on the integrity of those Habitats sites of the GYTS policies.

It should be noted that the competent authority (Norfolk County Council) undertakes the Screening and Appropriate Assessment, the consultant provides the information or evidence-base to allow this to be completed. The competent authority must include consideration of 'in-combination' effects arising from other projects and plans within their assessment, as well as those potentially acting alone. Given the scale of the HRA the in-combination exercise will likely consider in-County, as well as outside-County interactions with Habitats sites.

There are a number of recent Court of Justice of the European Union (CJEU) rulings which are relevant to this HRA and which will still be taken into consideration after the UK leaves the European Union. These are given below for information.

The Council for Justice of the European Union (CJEU) rulings

A number of CJEU rulings are relevant to the HRA screening exercise and are noted below. At the present time the position, under section 6(3) EU (Withdrawal) Act 2018 (as amended), is that the courts in the UK, with the sole exception of the Supreme Court, will continue to be bound by HRA judgments

[19] '*(a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or.*
(b) any other reasons which the Competent Authority, having due regard to the opinion of the Commission, consider to be imperative reasons of overriding public interest.'

handed down by the CJEU and by domestic courts prior to 31 December 2020 when interpreting the Conservation of Habitats and Species Regulations 2017 (as amended). This is the case as long as the Conservation of Habitats and Species Regulations 2017 (as amended) remain unmodified by Parliament. The Supreme Court will, however, be at liberty to depart from these judgments after 31 December 2020 if they consider it appropriate to do so.[20]

The Wealden Judgement

The Wealden Judgement, handed down in March 2017, has introduced additional complexities into the assessment process in relation to in-combination and cumulative effects.

Prior to this Judgement, air quality impacts on Habitats Sites were only considered alongside roads where the traffic growth associated with the individual Plan or Project being assessed exceeded specified screening criteria. These criteria were typically based on changes in vehicle movements and taken from the DMRB (HA207/07), namely: increases of 1000 vehicles per day or 200 Heavy Goods Vehicles per day (as Annual Average Daily Traffic (AADT)).

The Wealden Judgement means that every single plan or project which, alone, is predicted to give rise to any increase in traffic or other air emission (however small) must be subjected to an in-combination assessment with other plans or projects (which would include those plans or projects with a similar tiny impact). However, the judgement did not rule out the application of thresholds in principal and this approach is normally taken as the basis of the assessment.

The judgement has led to a more detailed analysis of three key questions to discern which plans and project are those where a detailed “in combination” assessment is required in relation to changes in air quality:

[20] Freeths Habitats Regulations update 2020. Available at: https://communications.freeths.co.uk/44/1637/october-2020/the-habitats-regulations-assessment-regime-after-31-december-2020---how-will-it-look-.asp?sid=8bf6fad5-597a-43c6-8f70-61503ec0adb9

a) Is your plan or project putting emissions into the air?;

b) If so, are those emissions at a level where they could actually be measured / perceived?; and

c) If so, is there a realistic (rather than hypothetical) risk that those emissions, alone, will have an adverse effect on the ecology of a SAC / SPA?

A fuller justification will be required when applying the threshold approach.

People over Wind (The Sweetman Case)

The Court of Justice of the European Union's (CJEU's) decision in the matter of People Over Wind and Sweetman v Coillte Teoranta (C-323/17) (hereafter referred to as the 'Sweetman Case'), states that:

'Article 6(3) ……. must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an Appropriate Assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site.'

In the new judgement the CJEU concluded that mitigation measures could not be considered as part of the project, and thus that the screening stage of HRA should not take account of them. This will undoubtedly be tested further in the courts in coming months and years, but the key issue is whether the mitigation measures proposed can genuinely be considered as part of the project, in that they would happen in any case, irrespective of the Habitats Site. If not, then they should be considered mitigation measures, and considered at the Appropriate Assessment stage of HRA.

This is an emerging issue for local authorities and means that, because of the potential for 'in-combination effects and the fact that HRA Screening should not take into account measures targeted at mitigating effects on Habitats Sites. Therefore, it is becoming increasingly commonplace for local authorities to conduct an Appropriate Assessment of all project, plans and planning applications (i.e. these are often no longer screened out, by way of an HRA Screening as has been the practise to date).

CJEU Ruling in the Netherlands nitrogen and agriculture cases c-293/17 and c-294/17

The final Court Judgement in relation to these two cases was handed down on the 7th November 2018. The ruling is still being reviewed by industry professionals and Natural England is yet to issue its Position Statement on the ruling. The judgement relates to the assessment of agricultural activities under the Habitats Regulations, but has potential implications for the assessment of changes in nitrogen (N) deposition in relation to air quality (as the air quality calculations draw upon N deposition rates from APIS and guidance within the DMRB which assumes a 2% reduction in N deposition year on year).

Of particular relevance to the assessment of air quality effects on Habitats Sites, the Court of Justice of the European Union ruled that:

“An ‘appropriate assessment’ may only take into account the existence of Article 6(1) ‘conservation measures’, or Article 6(2) ‘preventive measures’, or specific measures adopted for a conservation programme, or ‘autonomous’ measures not in the programme, if the expected benefits of those measures are certain at the time of the assessment.

The Ruling makes clear that certainty and a thorough and in-depth examination of the scientific soundness is required that that there is no reasonable scientific doubt as to the absence of adverse effects of each plan or project on the integrity of the site concerned.

Kokott Ruling

In the Opinion of Advocate General Kokott in Case C-6/04 Commission v UK [2005] ECR I-9017 at paragraph 49 she noted that an assessment of plans cannot by definition take into account all effects because

“Many details are regularly not settled until the time of the final permission” and “[i]t would also hardly be proper to require a greater level of detail in preceding plans or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation

must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure".

Appendix B – Habitats Sites Details, Including Qualifying Features and Conservation Objectives

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
The Broads SAC- Within the Site	5889.43	The Broads in East Anglia contain several examples of naturally nutrient-rich lakes. Although artificial, having been created by peat digging in medieval times, these lakes and the ditches in areas of fen and drained marshlands support relict vegetation of the original Fenland flora, and collectively this site contains one of the richest assemblages of rare and local aquatic species in the UK.	P/T- Water pollution T- climate change P- Invasive species P- Siltation P- Inappropriate water levels P/T- Hydrological changes	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 qualifying natural habitats and habitats of qualifying species

[21] Threats/pressures highlighted in green should be given primary consideration in screening and appropriate assessment of the GYTS policies, those highlighted amber should be considered as indirect effects as a result of the GYTS policies and those highlighted red are unlikely to be considerations in screening and appropriate assessment of the GYTS policies.

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		Annex I habitats that are a primary reason for selection of this site **3140** Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. **3150** Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation **7140** Transition mires and quaking bogs **7210** Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* **7230** Alkaline fens	P- Water abstraction P/T- Change in land management T- Inappropriate ditch management P- Inappropriate scrub management T- Changes in species distribution T- Public access/disturbance P- Undergrazing	The structure and function (including typical species) of qualifying natural habitats The structure and function of the habitats of qualifying species The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely The populations of qualifying species, and,

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) **Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site** **6410** Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) **Annex II species that are a primary reason for selection of this site**	P- Drainage T- Direct impact from third party[23]	The distribution of qualifying species within the site.[24]

[23] Broadland Site Improvement Plan (SIP): https://publications.naturalengland.org.uk/file/6218680128241664
[24] The Broads SAC Conservation Objectives (CO): https://publications.naturalengland.org.uk/file/6427605842788352

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		1016 Desmoulin's whorl snail *Vertigo moulinsiana* **1903** Fen orchid *Liparis loeselii* **4056** Ramshorn snail *Anisus vorticulus* **Annex II species present as a qualifying feature, but not a primary reason for site selection** **1355** Otter *Lutra lutra*[22]		
Broadland SPA- Adjacent to	5508.88	**Species referred to in Article 4 of Directive 2009/147/EC and listed in**	Same as Broads SAC	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the

[22] The Broads SAC Citation: https://publications.naturalengland.org.uk/file/6340387278946304

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
the Site, to the west		**Annex II of Directive 92/43/EEC and site evaluation for them:** **A021** *Botaurus stellaris*; Great bittern (Breeding) **A037** *Cygnus columbianus bewickii*; Bewick's swan (Non-breeding) **A038** *Cygnus cygnus*; Whooper swan (Non-breeding) **A050** *Anas penelope*; Eurasian wigeon (Non-breeding) **A051** *Anas strepera*; Gadwall (Non-breeding)		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 population of each of the qualifying features, and,

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		A056 *Anas clypeata*; Northern shoveler (Non-breeding) **A081** *Circus aeruginosus*; Eurasian marsh harrier (Breeding) **A082** *Circus cyaneus*; Hen harrier (Non-breeding) **A151** *Philomachus pugnax*; Ruff (Non-breeding)[25]		The distribution of the qualifying features within the site.
Broadland Ramsar site- Adjacent to	5508.88	Broadland is a low-lying wetland complex straddling the boundaries between east Norfolk and northern Suffolk. The area includes the river valley systems of the	Same as Broads SAC	Since Ramsar sites do not have their own Conservation Objectives, but the SPA and Ramsar coincide, the COs of

[25] The Broadland SPA Standard Data Form (SDF): https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9009253.pdf

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
the Site, to the west		Bure, Yare and Waveney and their major tributaries. The open distinctive landscape comprises a complex and interlinked mosaic of wetland habitats including open water, reedbeds, carr woodland, grazing marsh and fen meadow. The region is important for recreation, tourism, agriculture and wildlife. **Ramsar criterion 2** The site supports a number of rare species and habitats within the biogeographical zone context, including the following Habitats Directive **Annex I** features		the SPA can be also imposed on the Ramsar site. Ensure that the integrity of the site is maintained or restored as appropriate, and ensure 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

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		H7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* Calcium-rich fen dominated by great fen sedge (saw sedge). **H7230** Alkaline fens Calcium-rich springwater-fed fens. **H91E0** Alluvial forests with *Alnus glutinosa* and Fraxinus excelsior (*Alno-Padion, Alnion* *incanae, Salicion albae*) Alder woodland on floodplains, and the **Annex II species**		The supporting processes on which the habitats of the qualifying features rely The population of each of the qualifying features, and, The distribution of the qualifying features within the site.[29]

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		S1016 Desmoulin`s whorl snail **S1355** Otter **S1903** Fen orchid. **Ramsar criterion 6 – species/populations occurring at levels of international importance.** **Qualifying Species/populations (as identified at designation):** **Species with peak counts in winter:** Tundra swan *Cygnus columbianus bewickii* Eurasian wigeon Gadwall		

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		Northern shoveler **Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in winter:** Pink-footed goose *Anser brachyrhynchus* Greylag goose *Anser anser anser*[26]		
Breydon Water SPA - Within and adjacent to	1203.05	**Species referred to in Article 4 of Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and site evaluation for them**	T- Shooting/scaring T- change in land management	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the

[26] The Broadland Ramsar Information Sheet(RIS): https://jncc.gov.uk/jncc-assets/RIS/UK11010.pdf

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
the Site, to the west		**A037** Bewick's swan (Non-breeding) **A132** Pied avocet (Non-breeding) **A140** European golden plover (Non-breeding) **A142** Northern lapwing (Non-breeding) **A151** Ruff (Non-breeding) **A193** Common tern (Breeding)A Waterbird assemblage[27]	T- Public access/disturbance T- Hydrological changes P/T- Fisheries: Commercial marine and estuarine[28]	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

[27] Breydon Water SPA Citation: https://publications.naturalengland.org.uk/file/6031456824459264
[28] Breydon Water SPA SIP: https://publications.naturalengland.org.uk/file/5893824219447296

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
				The population of each of the qualifying features, and, The distribution of the qualifying features within the site.[29]
Breydon Water Ramsar site- Within and adjacent to the Site, to the west	1203.05	This site is an inland tidal estuary at the mouth of the River Yare and its confluence with the Rivers Bure and Waveney and an adjacent area of drained floodplain. It has extensive areas of mudflats that are exposed at low tide and these form the only tidal flats on the east coast of Norfolk. It contains a large area of lowland wet	Same as Breydon Water SPA	Since Ramsar sites do not have their own Conservation Objectives, but the SPA and Ramsar coincide, the COs of the SPA can be also imposed on the Ramsar site. Ensure that the integrity of the site is maintained or restored as

[29] Breydon Water SPA CO: https://publications.naturalengland.org.uk/file/4822248376762368

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		grassland. Breydon Water is internationally important for wintering waterfowl. **Ramsar criterion 5** Assemblages of international importance- Species with peak counts in winter. **Ramsar criterion 6 – species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation):** Species with peak counts in winter: Tundra Swan Northern Lapwing		appropriate, and ensure 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

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		Species/populations identified subsequent to designation for possible future consideration under criterion 6. Species with peak counts in winter: Pink-footed goose Eurasian wigeon Northern shoveler European golden plover Black-tailed godwit[30]		The population of each of the qualifying features, and, The distribution of the qualifying features within the site.[28]

[30] Breydon Water RIS: https://jncc.gov.uk/jncc-assets/RIS/UK11008.pdf

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
Great Yarmouth North Denes SPA- Within the Site	160.37	The Great Yarmouth North Denes proposed SPA contains two component areas, the Great Yarmouth North Denes actively acreting low dune system and beach, together with the beach and foredune ridge at Winterton-Horsey Dunes. The two component areas are linked, due to the high mobility of little terns, and to the dynamic nature of the beach shapes which influences suitability for breeding.	P- Inappropriate costal management T- Costal squeeze T- Public access/disturbance T- Hydrological changes T- Inappropriate scrub control T- Inappropriate pest control	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure 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

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		The boundary at the Great Yarmouth North Denes component encompasses the dune system and beach down to the Mean Low Water Mark and at the Winterton-Horsey component, the inland boundary follows the line of hard defences and foredune ridge, the seaward boundary follows the Mean Low Water Mark.	P/T- Invasive species T- Undergrazing P- Air pollution: impact of atmospheric nitrogen deposition[32]	The supporting processes on which the habitats of the qualifying features rely The population of each of the qualifying features, and, The distribution of the qualifying features within the site.[33]

[32] Great Yarmouth Winterton Horsey SIP: https://publications.naturalengland.org.uk/file/6277135286665216
[33] Great Yarmouth North Danes SPA CO: https://publications.naturalengland.org.uk/file/6450939770961920

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		The Great Yarmouth North Denes proposed SPA qualifies under Article 4.1, by supporting a nationally important breeding population of little tern *Sterna albifrons*, an Annex 1 species. A total of 277 pairs was recorded breeding in 1991, representing 1% of the EEC breeding population and 11.5% of the British breeding population. [31]		

[31] Great Yarmouth North Danes SPA Citation: https://publications.naturalengland.org.uk/file/5943369930899456

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
Winterton-Horsey Dunes SAC- Within and adjacent to the Site, to the north		This site consists of an extensive dune system supporting acidic plant communities. It contains well-developed areas of dune heath, slacks and dune grassland merging into grazing marsh and downy birch Betula pubescens woodland. The seaward edge of the dunes is well vegetated with marram *Ammophila arenaria* and lyme grass *Leymus arenarius*. The older, grey dunes support a more diverse flora with frequent sand sedge *Carex arenaria*, sheep's-fescue *Festuca ovina*, common polypody *Polypodium vulgare* and narrow buckler-fern *Dryopteris carthusiana*. Three rare grasses are	Same as Great Yarmouth North Denes SPA	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 The structure and function (including typical species) of the qualifying natural habitats, and,

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		present in abundance; grey hair-grass *Corynephorus canescens*, rush-leaved fescue *Festuca juncifoli*a and purple marram X *Calammophila baltica*. A notable assemblage of bryophytes and lichens occurs on these acidic dunes. Dune heath has developed on the landward side with heather Calluna vulgaris, bell heather Erica cinerea, cross-leaved heath *Erica tetralix* and bog-moss *Sphagnum spp* in the damper hollows. Because of their acidic soils, the dune slacks support swamp and mire communities with notable species including royal fern Osmunda regalis and		The supporting processes on which the qualifying natural habitats rely.[35]

[35] Winterton-Horsey Dunes SAC CO: https://publications.naturalengland.org.uk/file/6564347065401344

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		common wintergreen Pyrola rotundifolia. In addition to small areas of typical dune slack vegetation characterised by creeping willow Salix repens ssp. argentea with the moss *Calliergon cuspidatum* and Yorkshire-fog Holcus lanatus. **Annex I habitats that are a primary reason for selection of this site** **2150** Atlantic decalcified fixed dunes (Calluno-Ulicetea) **2190** Humid dune slacks **Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site**		

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		2110 Embryonic shifting dunes **2120** "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")"[34]		
Southern North Sea MCA-Adjacent to the Site, towards the east	3695100	The Southern North Sea SAC lies along the east coast of England, predominantly in the offshore waters of the central and southern North Sea, from north of Dogger Bank to the Straits of Dover in the south. This site stretches from the central North Sea (north of Dogger Bank) to the Straits of Dover in the south, covering an area of 36,951 km^2, making it the largest SAC in UK and	NA	NA

[34] Winterton-Horsey Dunes SAC Citation: https://publications.naturalengland.org.uk/file/6601602358050816

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		European waters at the point of designation in 2019. The Southern North Sea SAC is an area of importance for harbour porpoise, supporting an estimated 17.5% of the UK North Sea Management Unit (MU) population. Approximately two-thirds of the site, the northern part, is recognised as important for porpoises during the summer season, whilst the southern part supports persistently higher densities during the winter. The majority of this site lies offshore but does extend from the coastal areas of Norfolk and Suffolk out to the 12 nautical mile limit. Therefore, both Natural England		

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		and JNCC are responsible for providing statutory advice. The SAC ranges in depth from Mean Low Water down to 75 m, with the majority of the site shallower than 40 m, and is characterised by its sandy, coarse sediments which cover much of the site. These physical characteristics are thought to be preferred by harbour porpoise, likely due to availability of prey. Harbour porpoise *Phocoena phocoena*		
Greater Wash SPA- Adjacent to	35357 7.86	The Greater Wash SPA is located in the mid-southern North Sea between Bridlington Bay in the north and the Outer	P- Inappropriate water levels	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
the Site, to the north		Thames Estuary SPA in the south. To the north, off the Holderness coast in Yorkshire, seabed habitats primarily comprise coarse sediments, with occasional areas of sand, mud and mixed sediments. Subtidal sandbanks occur at the mouth of the Humber Estuary, primarily comprising sand and coarse sediments. Offshore, soft sediments dominate, with extensive areas of subtidal sandbanks off The Wash as well as north and east Norfolk coasts. Closer inshore at The Wash and north Norfolk coast, sediments comprise a mosaic of sand, muddy sand, mixed sediments and coarse sediments, as well as occasional Annex I reefs. The area off	T- Public access/disturbance T- Siltation T- Fisheries: Recreational marine and estuarineT- Invasive species T- Inappropriate costal management T- Fisheries: Commercial	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 population of each of the qualifying features, and,

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		the Suffolk coast continues the mosaic habitats mostly dominated by soft sediment. **The site qualifies under Article 4.1 of the Directive 2009/147/EC by regularly supporting populations of national importance of the Annex I species:** Red-throated diver *Gavia stellata* Little gull *Hydrocoloeus minutus* Sandwich tern *Sterna sandvicensis* Common tern	marine and estuarine T- Predation T- Costal squeeze[37]	The distribution of the qualifying features within the site.[38]

[37] The Wash and North Norfolk Coast SIP: https://publications.naturalengland.org.uk/file/6240487188987904
[38] Greater Wash SPA CO: https://publications.naturalengland.org.uk/file/4597105251581952

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		Little tern **In addition, the site qualifies under Article 4.2 of the Directive 2009/147/EC by regularly supporting a population of international importance of the migratory species:** Common scoter *Melanitta nigra*[36]		
Outer Thames Estuary SPA-	392,451.66	The Outer Thames Estuary SPA is located on the east coast of England between the counties of Norfolk (on the north side) and Kent (on the south side) and extends into	P- Fisheries: Commercial marine and estuarine[40]	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the

[36] Greater Wash SPA Citation: https://publications.naturalengland.org.uk/file/6567930578075648
[40] Outer Thames Estuary SPA SIP: https://publications.naturalengland.org.uk/file/5877617494327296

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
Adjacent to the Site, to the east		the North Sea. The site comprises areas of shallow and deeper water, high tidal current streams and a range of mobile mud, sand, silt and gravely sediments extending into the marine environment, incorporating areas of sand banks often exposed at low tide. Intertidal mud and sand flats are found further towards the coast and within creeks and inlets inland down the Blyth estuary and the Crouch and Roach estuaries. The diversity of marine habitats and associated species is reflected in existing statutory protected area designations, some of which overlap or abut the SPA.		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 population of each of the qualifying features, and,

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		The site qualifies under article 4.1 of the Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season: Red-throated diver Little tern Common tern[39]		The distribution of the qualifying features within the site.[41]
Haisborough, Hammond	146759	The Haisborough, Hammond and Winterton site lies off the north east coast of Norfolk, and contains a series of sandbanks which	P- Feature location/ extent/ condition unknown	NA

[39] Outer Thames Estuary SPA Citation: https://publications.naturalengland.org.uk/file/5459831745413120
[41] Outer Thames Estuary SPA CO: https://publications.naturalengland.org.uk/file/5184120712069120

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
and Winterton cSAC- 7kms to the east		meet the Annex I habitat description 'Sandbanks slightly covered by sea water all the time'. The central sandbank ridge in the site is composed of alternating ridge headland associated sandbanks (Dyer & Huntley, 1999). This ridge consists of the sinusoidal banks which have evolved over the last 5,000 years, originally associated with the coastal alignment at the time that the Holocene marine transgression occurred (Cooper et al, 2008). The bank system consists of: Haisborough Sand, Haisborough Tail, Hammond Knoll, Winterton Ridge and Hearty Knoll. Hewett	P/T- Fisheries: Commercial marine and estuarine[43]	

[43] Haisborough, Hammond and Winterton cSAC SIP: https://publications.naturalengland.org.uk/file/6724640178176000

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		Ridge and Smiths Knoll form an older (~7,000BP) sequence of sandbank ridges located along the outer site boundary. Inshore are the Newarp Banks and North and Middle Cross Sands which lie on the south west corner of the site. These banks are believed to be geologically recent, their genesis dating to around the 5th Century AD (Cooper et al, 2008). **Annex I habitats that are a primary reason for selection of this site** **1110** Sandbanks which are slightly covered by sea water all the time		

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		1170 Reefs[42]		
Paston Great Barn SAC- 18.5kms to the north of the Site	0.96	Paston Great Barn is the only known example of a maternity roost of barbastelle bats in a building. The Barn is a 16th century thatched barn with associated outbuildings. A maternity colony of barbastelles utilises a range of cracks and crevices in the roof timbers for roosting. **Annex II species that are a primary reason for selection of this site**	T- Change to site conditions T- Wildfire/arson T- Offsite habitat availability/ management T- Public access/disturbance T- Predation[45]	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 habitats of qualifying species

[42] Haisborough, Hammond and Winterton cSAC CO: https://publications.naturalengland.org.uk/file/3284578
[45] Paston Great Barn SIP: https://publications.naturalengland.org.uk/file/5348069707087872

Site Name & Distance	Site Size (Ha)	Summary of Reasons for Designation Summarised on Natura 2000 Standard Data Form or Ramsar Information Sheet	Pressures and Threats Listed within the Site Improvement Plan (NE, undated) (T=Threat, P=Pressure)[21]	Conservation Objectives
		1308 Barbastelle *Barbastella barbastellus*[44]		The structure and function of the habitats of qualifying species The supporting processes on which the habitats of qualifying species rely The populations of qualifying species, and, The distribution of qualifying species within the site.[46]

[44] Paston Great Barn SAC Citation: https://publications.naturalengland.org.uk/file/5977901165969408
[46] Paston Great Barn SAC CO: https://publications.naturalengland.org.uk/file/5114399593594880

Appendix C – APIS Information for SPA and SAC Sites Where Air Pollution is Listed as a Pressure or Threat

The following table summarises the APIS information (for mid-year 2021) for the SAC and SPA sites where air pollution is listed as a pressure or threat. In relation to the SPAs, species designated features are taken into account by considering the habitat upon which they are reliant.

With regards to NH_3, where APIS provides a range of 1µg/m^3 or 3µg/m^3 for the Critical Level, a precautionary approach has been adopted and only the lower Critical Level is reported.

Designated Site	**Habitat / Species**	**Relevant CL Habitat**	**EUNIS Code**	**CL Range (kg N/ha/yr)**	**Recommended Assessment CL**	**Max NDep (kgN/ha/yr) Value**	**Ammonia CL**	**Max NH_3 Concentration (µg/m^3)**
Great Yarmouth North Denes SPA	Sterna albifrons (Eastern Atlantic - breeding)	Coastal dune grasslands (grey dunes)	N15	5-15	5	13.236	Not Sensitive	1.384
Great Yarmouth North Denes SPA	Sterna albifrons (Eastern Atlantic - breeding)	Shifting coastal dunes	N13; N14	10-20	10	13.236	Not Sensitive	1.384
Winterton-Horsey Dunes SAC	Atlantic decalcified fixed dunes (Calluno-Ulicetea)	Coastal dune heaths	N18; N19	10-15	10	12.911	1	0.943

Designated Site	Habitat / Species	Relevant CL Habitat	EUNIS Code	CL Range (kg N/ha/yr)	Recommended Assessment CL	Max NDep (kgN/ha/yr) Value	Ammonia CL	Max NH_3 Concentration ($\mu g/m^3$)
Winterton-Horsey Dunes SAC	Dunes with *Hippophae rhamnoides*	No comparable habitat with established critical load estimate available	NA	NA	NA	12.911	1 or 3	0.943
Winterton-Horsey Dunes SAC	Embryonic shifting dunes	Shifting coastal dunes	N13;N14	10-20	10	9.226	1 or 3	0.687
Winterton-Horsey Dunes SAC	Humid dune slacks	Moist and wet dune slacks - acid type	N1H - acid	5-10	5	9.226	1 or 3	0.687
Winterton-Horsey Dunes SAC	Humid dune slacks	Moist and wet dune slacks - acid type	N1H - calcareous	10-15	10	9.226	1 or 3	0.687

Designated Site	Habitat / Species	Relevant CL Habitat	EUNIS Code	CL Range (kg N/ha/yr)	Recommended Assessment CL	Max NDep (kgN/ha/yr) Value	Ammonia CL	Max NH_3 Concentration ($\mu g/m^3$)
Winterton-Horsey Dunes SAC	Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")	Shifting coastal dunes	N13;N14	10-20	10	9.226	1 or 3	0.687
Winterton-Horsey Dunes SAC	*Triturus cristatus*	No comparable habitat with established critical load estimate available	NA	NA	NA	NA	No critical level has been assigned for this feature, please seek site specific advice	

Appendix D – Great Yarmouth Transport Strategy Implementation Plan (2025-2035) – List of Projects

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
National Highways A47 Acle Straight Dualling	This option involves upgrading the A47 Acle Straight to dual carriageway standard to increase capacity, improve road user safety, and create a continuous stretch of dual carriageway from Dereham to Great Yarmouth when combined with other A47 National Highways schemes.	Congestion on the A47 Acle Straight. Increase road capacity on the A47 Acle Straight.	Dual carriageway - loss of habitat (mostly is agriculture land but scrub also present), Effect on Air quality during the construction phase. Inflow of more vehicles, likely increased temporary pollution increase and likely adds to congestion in the town area. The Broads (SAC) and Broadland (Ramsar) is adjacent along some extent of A47 running towards Great Yarmouth.	YES
Capacity improvements at A47 / James	This option involves capacity improvements at the A47 / James Paget University Hospital signalised	Congestion at A47 / James Paget University Hospital signalised	-	NA

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Paget University Hospital signalised junction	junction. This junction has been identified as a pinch point. Capacity improvements could include reviewing the signalised junction arrangement, including the phasing and timings, and reallocating carriageway space within the highway boundary to support the dominant movements.	junction. Increase road capacity at the junction.		
Work with Network Rail and Greater Anglia to improve Great Yarmouth railway station building	This option involves improving the Great Yarmouth Railway Station building. Currently, the station appears run-down giving a poor impression of the town. It also feels remote and is often unmanned for long periods. In collaboration with Network Rail and Greater Anglia, this option aims to enhance the railway station concourse and create a welcoming sense of arrival	Great Yarmouth rail station building neglected and in need of refurbishment. Increase rail usage for residents/workers in Great Yarmouth.	Breydon Water Ramsar and SPA within 350m of the Railway station. Depends on type of works. If it's just beautification and increase in personnel, it likely won't have an effect other than disturbing hedgerows if any.	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	to the town. Potential improvements include new mixed-use development of the concourse, public realm enhancements, and a greater presence of railway operator personnel.		If works involve construction or demolition works, the effects would increase including emissions, pollution, accidental spillage, maybe effects on nocturnal species if any addition to lighting strategy.	
National Highways Vauxhall Roundabout improvements	This option involves capacity improvements to the Vauxhall Roundabout (A47 / Runham Road / Acles New Road Roundabout). These improvements could include widening the approach to add extra lanes, creating flared entries to allow more vehicles to queue, and optimising the geometric design for better traffic flow.	Congestion at the Vauxhall Roundabout (A47 / Runham Road / Acles New Road Roundabout). Increase road capacity at the roundabout.	Loss of habitat, more emmisions from vehicles Effect to Breydon water Ramsar, SPA and SSSI. Breydon Water Ramsar,SPA and SSSI about 189m of the Roundabout towards West. Great Yarmouth North Denes SPA and SSSI	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
			within 2km (1.4km) towards east.	
Enhanced bus interchange facilities at the James Paget University Hospital	This option involves enhancing the bus interchange and waiting facilities at James Paget University Hospital.	Poor public transport interchange facilities at James Paget University Hospital. Increase bus patronage at James Paget University Hospital.	Effects if lights are installed. Effects due to likely construction works.	YES
Develop the existing wayfinding strategy for Great Yarmouth to improve pedestrian connectivity between the Town Centre, Seafront, bus station,	This option involves developing the existing wayfinding strategy for Great Yarmouth to improve pedestrian connectivity between the Town Centre, Seafront, bus station, railway station, and other key trip attractors. This could focus on digital wayfinding by developing a smartphone app for Great Yarmouth to show users pedestrian routes to and from key trip	Poor pedestrian connectivity between key trip attractors in Great Yarmouth. Encourage walking throughout Great Yarmouth to and from key trip attractors such as the seafront.	-	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
railway station and other key trip attractors	attractors. This will help direct pedestrians to their destinations more quickly and increase awareness of the attractions on offer.			
Introduce a micromobility scheme in Great Yarmouth	This option proposes the reintroduction of an e-scooter scheme in Great Yarmouth. Great Yarmouth's three-year e-scooter trial with the company Ginger ended. This would allow shorter-distance journeys, which might otherwise be undertaken by car, to be replaced using cycles or e-scooters.	Lack of micromobility options in Great Yarmouth. Encourage multi-modal journeys.	Overall betterment of the environment, but construction might lead to LSE.	YES
Upgrades to Market Gates bus station to improve amenity and	This option involves upgrading Market Gates bus station in Great Yarmouth town centre to improve amenities and facilities for passengers. Norfolk County Council	Poor public transport amenities and facilities at Market Gates bus station. Increase bus patronage through	Effects due to likely construction works.	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
facilities for pedestrians	has undertaken works to upgrade and improve the waiting facilities and general surroundings at. Norfolk County Council recently converted the bus station to two-way operation, enabling buses to run from south to north through the bus interchange. Future improvements could include further enhancements to the general surroundings.	Great Yarmouth town centre.		
Improve facilities for pedestrians and cyclists around Gapton Hall Retail Park	This option involves improving facilities for pedestrians and cyclists around Gapton Hall Retail Park. Currently, there are a few shared access paths, but a zebra crossing could be beneficial to help users cross from one side of the retail park to the other.	Poor walking and cycling infrastructure provision around Gapton Hall Retail Park. Encourage active travel around Gapton Hall Retail Park.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Investigate accessibility improvements throughout Great Yarmouth for vulnerable pedestrians.	This option involves making accessibility improvements throughout Great Yarmouth to better accommodate vulnerable users. Potential enhancements include new formalised crossings, improved street lighting, tactile paving, and dropped curbs.	Lack of accessible infrastructure across Great Yarmouth. Enhance existing infrastructure to provide better accessibility in Great Yarmouth.	Overall betterment of the environment	NO
Improve existing pedestrian routes to / from Harfreys Industrial Estate	This option involves improving the existing pedestrian route to and from Harfreys Industrial Estate. Potential improvements include enhancements to the foot/cycle bridge across the A47, the footpath between Harfreys Road and Burgh Road, and the footpath between Edison Way and Burgh Road. This scheme aims to improve accessibility for pedestrians by widening paths, replacing barriers,	Poor walking and cycling infrastructure provision to and from Harfreys Industrial Estate. Encourage active travel along the corridor to and from Harfreys Industrial Estate.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	reviewing pedestrian crossing points, and cutting back vegetation.			
Package of walking and cycling Improvements along the A143 Beccles Road	This option involves a package of walking and cycling improvements along the A143 Beccles Road.	Poor walking and cycling infrastructure provision. Encourage active travel along the A143 Beccles Road.	Overall betterment of the environment	NO
Package of walking and cycling improvements connecting the Town Centre with Vauxhall Holiday Park	This option covers cycle improvements and bus stop locations along the New Acle Road, as well as cycle tie-in points on the eastern side of the bridge to Fuller's Hill roundabout and Tar Works Road. Improvements to these areas could be delivered alongside improvements to Vauxhall Roundabout and would encourage modal shift for users that visit the Vauxhall Holiday Park.	Poor walking and cycling infrastructure provision between Vauxhall holiday park and Great Yarmouth town centre. Encourage active travel between these key trip attractors.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Improve facilities for pedestrians and cyclists between Caister-on-Sea and Great Yarmouth Town Centre	This option involves improving facilities for pedestrians and cyclists between Caister-on-Sea and Great Yarmouth Town Centre. These enhancements would improve accessibility and reduce journey times for users. Currently, there are shared-use and segregated access paths for cyclists and pedestrians into Caister-on-Sea, but these could be improved by more frequently segregating the cycle lanes from the main road.	Poor active travel facilities and routes between Caister-on-Sea and Great Yarmouth. Increase active travel journeys between the towns.	Overall betterment of the environment	NO
Investigate sustainable transport connectivity of Holiday Parks in Great Yarmouth	This option involves investigating the sustainable transport connectivity of Holiday Parks in Great Yarmouth (Haven Seashore Holiday Park, Vauxhall Holiday Park, and Cherry Tree Holiday Park) to understand travel patterns	Poor sustainable transport facilities and routes at Holiday Parks in Great Yarmouth. Increase use of public transport and encourage active travel	-	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	to and from Holiday Parks in Great Yarmouth.	to and from the Holiday Parks.		
Investigate reallocation of carriageway space within Hall Plain and Hall Quay to improve facilities and routes for buses, pedestrians and cyclists.	This option involves investigating the reallocation of carriageway space to improve bus and pedestrian routes. Potential changes include removing parking at the western end of Stonecutters Way to facilitate eastward right-turn movements for buses, realigning the Stonecutters Way/Howard Street North junction to ease left-turn movements for buses, and enhancing pedestrian crossing facilities between Broad Row and Market Row.	Poor public transport and active travel facilities and routes within Hall Plain and Hall Quay. Increase use of public transport and encourage active travel along the corridor.	-	NO
Develop the LCWIP proposed cycling route between Great	This option involves creating a new 10.5km cycling route that follows the coastal side of Great Yarmouth before extending north to the centre	Lacking cycle connection between Great Yarmouth outer harbour and Caister-on-	Goes along the Great Yarmouth North Denes (SPA)	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Yarmouth Outer Harbour and Caister-on-Sea	of Caister-on-Sea. The route passes through one of the major employment areas at the docks to the south, along the beachfront, past the pleasure beach and pier, and then slightly inland through residential areas.	Sea. Improve number of cycle trips between the key trip attractors identified.		
Develop the LCWIP proposed cycling route between Great Yarmouth Town Centre and Nelson's Monument	This option involves creating a new 2.5km cycling route that links the town centre to Nelson's Monument towards the southern end of Great Yarmouth. The route passes through large residential areas in the north and connects to significant industrial employment areas in the south.	Lacking cycle connection between the Great Yarmouth town centre and Nelson's Monument. Increase number of cycle trips between the key trip attractors identified.	Overall betterment of the environment	NO
Develop the LCWIP proposed cycling route between Great	This option involves creating a new 7.4km cycling route that links the Town Centre with the proposed extension of Beacon Park business	Lacking cycle connection between Great Yarmouth town centre and the Beacon	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Yarmouth Town Centre and Beacon Business Park	park. The route passes employment areas to the east of Southtown Road before entering Harfreys Industrial Estate. Before reaching the enterprise area south of Beaufort Way, the corridor goes through Bradwell centre, with links to schools and green spaces, including the large Mill Lane Playing Field.	Park business park. Increase number of cycle trips between the key trip attractors identified.		
Develop the LCWIP proposed cycling route between Southtown and Beacon Business Park	This option involves creating a new 5.9km cycling route that links an existing cycling route near East Coast College to Beacon Park via Gorleston. The route passes through Priory Gardens and Gorleston High Street before continuing along Victoria Road Park. It runs alongside James Paget University Hospital before	Lacking cycle connection between the Southtown and the Beacon Park business park. Increase number of cycle trips between the key trip attractors identified.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	reaching its destination at Beacon Park business park. This corridor also could link with new cycle routes across the Herring Bridge.			
Develop the LCWIP proposed cycling route between Great Yarmouth Town Centre and Caister-on-Sea	This option involves creating a 2.2km route that connects the town centre with the cycling route to Caister-on-Sea. The route links to the railway station on the other side of the River Bure and passes through the large residential areas of Northgate and New Town before connecting to the cycling route at Bure Park.	Lacking cycle connection between Great Yarmouth town centre and Caister-on-Sea. Increase number of cycle trips between the key trip attractors identified.	Overall betterment of the environment	NO
Reallocation of carriageway space to provide cycle route across Haven Bridge	This option involves reallocating carriageway space to provide cycle route access across Haven Bridge between Mill Road and Hall Quay. This would capatalise on the benefits of the Herring Bridge and	Poor public transport and active travel facilities across Haven Bridge. Increase use of public transport and	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
between Mill Road and Hall Quay.	allow for faster and safer journeys for cyclists if the cycle route is segregated.	encourage active travel across the bridge.		
Package of walking and cycling improvements along the Seafront	This option involves a package of walking and cycling improvements along the Seafront.	Poor walking and cycling infrastructure provision. Encourage active travel along the seafront.	Overall betterment of the environment	NO
Package of walking and cycling Improvements within Gorleston-on-Sea	This option involves a package of walking and cycling Improvements within Gorleston-on-Sea	Poor walking and cycling infrastructure provision. Encourage active travel within Gorleston-on-Sea.	Overall betterment of the environment	NO
Package of walking and cycling improvements within Great	This option involves a package of walking and cycling improvements within Great Yarmouth Town Centre.	Poor walking and cycling infrastructure provision. Encourage active travel within	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Yarmouth Town Centre.		Great Yarmouth town centre.		
Package of walking and cycling Improvements within Southtown	This option involves a package of walking and cycling improvements within Southtown.	Poor walking and cycling infrastructure provision. Encourage active travel within Southtown.	Overall betterment of the environment	NO
Package of walking and cycling improvements within the South Denes peninsula	This option involves a package of walking and cycling improvements within the South Denes peninsula. These include improvements to existing active travel infrastructure north of the Herring Bridge towards Great Yarmouth town centre to provide connectivity with new cycle routes.	Poor walking and cycling infrastructure provision. Encourage active travel within South Denes peninsula.	Overall betterment of the environment	NO
Reduce speed limit on existing A47 Acle Straight	This option involves reducing the speed limit on the existing single carriageway section of the A47 to	Congestion and road safety concerns on A47 Acle Straight. Improve	Slower vehicle movement. More emission per vehicle.	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	improve traffic flow and road user safety. This would be combined with measures to enforce the new speed limit, such as speed cameras or average speed cameras.	traffic flow on the existing single carriageway section of the A47.		
Reduction in the speed limit on the A1064	This option proposes reducing the speed limit on the existing single carriageway section of the A1064 to improve traffic flow and road user safety. The changes could be as follows: 50 mph between Caister-on-Sea and Filby, 30 mph between Filby and Fleggburgh, 50 mph between Fleggburgh and Billockby, and 30 mph in Billockby. Currently, the A1064 is set at the national speed limit for a single carriageway (60 mph). This change aims to address traffic issues in the villages.	Congestion and road safety concerns on the A1064. Improve traffic flow on the A1064.	Slower vehicle movement. More emissions per vehicle.	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Package of walking and cycling improvements within North Quay	This option involves a package of walking and cycling improvements within North Quay.	Poor or lacking active travel infrastructure provision at North Quay. Encourage active travel within North Quay.	Overall betterment of the environment	NO
New signed strategic cycle route between Great Yarmouth Town Centre, Gorleston-on-Sea and other key routes that utilise Great Yarmouth Herring Bridge (Third River Crossing)	This option proposes a new strategic cycle link between Great Yarmouth Town Centre, Gorleston-on-Sea, and other key routes. The route would utilise the Herring Bridge to provide a new path around the town, which currently lacks cycle access. This option would also connect several existing routes, including cycle routes 1 and 2 to the east of the River Yare, Sustrans Route 517, cycle routes 5 and 6, and existing neighbourhood links along the A143, ensuring well-connected cycle routes. The	Poor cycle route connectivity for journeys that could utilise the Herring Bridge. Potential for increased active travel use across the bridge.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	Herring Bridge includes a bi-directional cycle path on its northern side but lacks connectivity between the existing cycle routes to the east and west of the River Yare.			
Improve public transport links of rural villages surrounding Great Yarmouth	This option aims to improve transport links for rural villages surrounding Great Yarmouth that currently have poor accessibility by public transport. By providing public transport access to the town, it will encourage a modal shift. The areas targeted include West Caister to the north of Great Yarmouth, and Browston Green, Ashby Dell, and Lound to the south of Great Yarmouth, which are not currently served by bus services to Great Yarmouth or Gorleston-on-Sea.	Poor transport links to rural villages surround Great Yarmouth. Improve public transport accessibility to these rural villages.	Better infrastructure might invite more tourism, which might cause LSE	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Creation of 'green travel' routes in Great Yarmouth that make use of disused railways	This option aims to significantly increase the network and distance of 'green travel' routes (disused railway tracks). In some cases, these routes could strategically link with other protected railways in neighbouring plans. This initiative offers a mode of travel that contributes to healthier lifestyles, improves the quality of life for residents, and attracts visitors. Potential 'green travel' routes include the path of disused railway lines from Southtown past Bradwell to Belton to the west of Gorleston-on-Sea, the former line from Great Yarmouth town centre along the coast to Caister-on-Sea, and the former line between Ormesby and Hemsby.	Lack of cycle infrastructure and connectivity in between villages. Encourage cycling in rural settings.	Might result in more tourism	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Develop contingency measures to improve network resilience	This option involves developing contingency measures to mitigate the impact of unforeseen events on the highway network (such as accidents, special events, and weather conditions), particularly for HGVs that cannot use local routes. This could include Variable Messaging Signs (VMS) on approach to the Herring Bridge to provide information on bridge closures in Great Yarmouth.	Lack of contingency measures to mitigate the impact of unforeseen events on the highway network. Improve network resilience.	-	NA
Introduction of new regular shuttle bus service	This option involves a new shuttle bus service at regular intervals between Great Yarmouth railway station and Great Yarmouth town centre, with the possibility of extending the service to include key employment sites to the south of Great Yarmouth, such as James	Lack of direct bus connection from Great Yarmouth rail station to town centre. Simpler onward connectivity to and from Great Yarmouth rail station.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	Paget University Hospital, Beacon Park Enterprise Zone, and South Denes Enterprise Zone.			
Improve public transport connectivity of South Denes peninsula / South Denes Enterprise Zone through introduction of new bus services / extension of existing services (e.g. bus route 2)	This option involves improving public transport connectivity between Great Yarmouth town centre and the South Denes peninsula and South Denes Enterprise Zone. This could be achieved through the introduction of a new bus service or the extension of an existing service, such as Route 2, which currently connects Great Yarmouth Town Centre to the Barrack Estate.	Lack of public transport services on the South Denes peninsula. Improve public transport connectivity on the peninsula.	Overall betterment of the environment	NO
New delivery hubs that support sustainable first mile / last mile logistics	This option proposes the creation of delivery hubs that support sustainable first-mile and last-mile logistics. These hubs could include parcel drop-off and pick-up facilities,	Lack of sustainable 'last-mile' logistic transport options. Encourage sustainable	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	enabling people to drop off and pick up packages. Additionally, they could offer consolidation services that provide first-mile and last-mile deliveries using sustainable modes. This option will involve the procurement of a commercial operator to operate the delivery hubs.	logistic transport options.		
Implementation of mobility hubs in the study area to encourage multi-modal journeys	This option proposes the installation of transport mobility hubs across Great Yarmouth, Gorleston-on-Sea, and Caister-on-Sea. These proposed mobility hubs would include shared bikes, cars, and e-scooters, alongside further street redesign work.	Lack of sustainable 'last-mile' transport options. Encourage multi-modal journeys.	Overall betterment of the environment	NO
Work with Greater Anglia to improve patronage	This option involves collaborating with Greater Anglia to increase patronage on rail services to and	Low train patronage numbers to and from Great Yarmouth train	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
numbers on rail services to / from Great Yarmouth	from Great Yarmouth. Greater Anglia could achieve this through advertising, improved service frequency, enhanced service reliability, rail schemes, and expanded ticketing options.	station. Increase rail patronage numbers at Great Yarmouth train station.		
Review and reconsider the arrangement of the town centre one-way system and gyratory to improve traffic flow	This option involves changes to the arrangement of the one-way system and gyratory to improve traffic flow throughout the town centre. This could include generic directional traffic management schemes, such as changing two-way sections of road to one-way sections and vice versa. These changes could be achieved by reallocating the carriageway within the highway boundary and could accommodate provisions for other modes of transport.	Congestion in Great Yarmouth town centre. Improve traffic flow through the town centre.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Electric Vehicle Charge Point Provision	This option proposes a review of existing car parks in the town to identify locations where new electric vehicle charge points could be installed retrospectively. The charge points should accommodate different types of vehicles, including taxis, vans, and motorcycles. A range of charge point types should be provided to cater to different types of journeys, such as ultra-fast chargers for quick top-ups and fast chargers for visitors parking for longer durations.	Patchy electric vehicle infrastructure provision in Great Yarmouth. Identify potential locations for electric vehicle charge point locations.	Construction might have LSE depending on location	YES
Capacity improvements at the Gapton Hall Roundabout	This option involves capacity improvements at and on approach to the Gapton Hall Roundabout, which could include reallocating carriageway space within the highway boundary to provide	Congestion at the Gapton Hall Roundabout. Increase road capacity at the roundabout.	Might lead to decrease in traffic, leading to lesser emissions.	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	additional lanes. High levels of congestion and delay are observed at the Gapton Hall Roundabout, particularly along Gapton Hall Road between Gapton Hall Road and Morton Peto Road.			
New bus priority measures in Great Yarmouth, Gorleston-on-Sea and Caister-on-Sea	This option involves new bus priority infrastructure in Great Yarmouth, Gorleston-on-Sea, and Caister-on-Sea. Currently, buses mostly share the carriageway with private vehicles, which can result in buses getting caught in congestion, making bus travel less attractive for those who have access to a car. At present, there is one bus-only road into the Great Yarmouth Market Gates bus interchange and three bus gates throughout Great Yarmouth.	Buses impacted by congestion in Great Yarmouth. Improve bus propensity throughout Great Yarmouth.	-	NA

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Work with Network Rail and Greater Anglia to improve the frequency of train services between Great Yarmouth and Norwich	This option involves collaborating with Network Rail and Greater Anglia to improve the frequency of rail services between Norwich and Great Yarmouth. This would enhance connectivity to Norfolk and beyond. Currently, the frequency of services between Norwich and Great Yarmouth is approximately one train per hour, with a journey time of 30-35 minutes.	Infrequent trains connecting Great Yarmouth to Norwich. Increase rail usage for residents/workers in Great Yarmouth.	Overall betterment of the environment	NO
This option considers working with local businesses to retrofit electric vehicle charge points in existing car parks to help encourage staff	This option proposes working with local businesses to install electric car charging points to encourage staff to switch to low-emission vehicles. This would be beneficial for privately owned electric cars and could also enable businesses to adopt an electric car fleet for business use.	Patchy electric vehicle infrastructure provision in Great Yarmouth. Identify potential locations for electric vehicle charge point locations at local businesses in Great Yarmouth.	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
and businesses to switch to low emissions vehicles				
Capacity improvements along Beccles Road (A143) between Beccles Road / Burnet Road and Beccles Road / Mill Lane	This option involves capacity improvements along the A143 Beccles Road between Beccles Road / Burnet Road and Beccles Road / Mill Lane. This link currently operates over capacity and serves as a major route for residential areas to the southwest (e.g., Bradwell) to access central Great Yarmouth and the A47, with no alternative routes available for vehicular traffic.	Congestion along Beccles Road (A143) between Beccles Road / Burnet Road and Beccles Road / Mill Lane. Increase road capacity along Beccles Road (A143).	Construction might have LSE depending on location	YES
Cycle route improvements between Great Yarmouth and Lowestoft	This option involves improvements to existing cycle routes around Great Yarmouth and the potential establishment of new routes between Great Yarmouth and	Poor cycling infrastructure provision between Great Yarmouth and Lowestoft. Encourage	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
	Lowestoft. Segregated cycle lanes help allocate space on roads exclusively for cycle use, which could encourage people to switch from using their personal vehicles.	cycle ridership along the corridor between the towns.		
Capacity improvements at A47 Lowestoft Road / Brasenose Avenue / Bridge Road signalised junction	This option involves capacity improvements at the A47 Lowestoft Road / Brasenose Avenue / Bridge Road signalised junction. This junction has been identified as a pinch point. Capacity improvements could include reviewing the signalised junction arrangement, including the phasing and timings, and reallocating carriageway space within the highway boundary to support the dominant movements.	Congestion at A47 Lowestoft Road / Brasenose Avenue / Bridge Road signalised junction. Increase road capacity at the junction.	Overall betterment of the environment	NO
Investigate the provision of additional HGV	This option involves a study to investigate additional HGV parking facilities at appropriate locations to	Limited HGV parking at Great Yarmouth port. Improve HGV parking	Overall betterment of the environment	NO

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
parking facilities to serve Great Yarmouth Port	serve Great Yarmouth Port, enabling the port to support continued growth.	facilities at Great Yarmouth port.		
Provide additional car parking at Great Yarmouth railway station	This option involves increasing the number of car parking spaces at Great Yarmouth railway station to improve rail usage in the area. It has been reported that many residents in the south of Great Yarmouth (e.g., Gorleston-on-Sea) currently travel to Lowestoft railway station due to limited parking at Great Yarmouth railway station.	Limited car parking at Great Yarmouth train station. Improve car parking provision at Great Yarmouth train station.	Overall betterment of the environment	NO
Improved local highway maintenance	This option involves improving road and pavement maintenance to address issues such as paving defects and overgrown vegetation.	Paving defects and overgrown vegetation throughout the highway network in Great Yarmouth. Improve road and pavement maintenance.	Construction might have LSE depending on location	YES

Project	Description	Identified problems and objectives of the option	Comments	Potential LSE
Improve rail freight facilities at Great Yarmouth	This option involves improving rail freight facilities at Great Yarmouth, enabling freight to be transferred between transport modes and allowing rail to be used for long-haul primary journeys. This could be achieved through the delivery of an intermodal freight terminal and the provision of associated warehousing. Enhancing rail freight facilities would support economic growth in the area.	No ability for rail freight to be transferred between transport modes at Great Yarmouth. Improve rail freight facilities at Great Yarmouth train station.	Construction might have LSE depending on location	YES