

Habitats Regulation Assessment (Stage 1 Screening) of the Central Lincolnshire Consultation Draft Local Plan (Regulation 18)

Main Report

June 2021



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List of Abbreviations

AA	Appropriate Assessment
EOMS	European Offshore Marine Sites
HRA	Habitats Regulations Assessment
IROPI	Imperative Reasons of Over-Riding Public Interest
IRZ	Impact Risk Zone
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effects
NPPF	National Planning Policy Framework
SAC	Special Areas of Conservation
SIP	Site Improvement Plan
SPA	Special Protection Areas
SSSI	Site of Special Scientific Interest
WFD	Water Framework Directive

1. Introduction and Background

1.1 Introduction

- 1.1.1 The Central Lincolnshire authorities (City of Lincoln Council, North Kesteven Council and West Lindsey District Council) are currently preparing a new Local Plan for Central Lincolnshire. The Local Plan will set out planning policies and allocations for the growth and regeneration of Central Lincolnshire over the next 20 years. The development of the Local Plan is currently at the Draft Plan (Regulation 18) stage.
- 1.1.2 This report is the Habitats Regulations Assessment (HRA) of the Consultation Draft Central Lincolnshire Local Plan (June 2021). It sets out the methodology, findings and conclusions of the HRA process, to determine whether the Local Plan, either alone or in combination with other plans or projects, is likely to have a significant effect on a European site. It has been prepared in accordance with the requirements of the Habitats Regulations 2017 (as amended) (the 'Regulations').¹
- 1.1.3 The first stage of the HRA process is the preparation of a Stage 1 Screening Assessment, which assesses whether the Local Plan is likely to have a significant effect, either alone or in-combination with other plans and projects, on the integrity of European nature conservation sites. This report presents the results of Stage 1 and should be read alongside the Consultation Draft Central Lincolnshire Local Plan. Should the Stage 1 assessment conclude that the Local Plan, either alone or in combination with other plans or projects, is likely to have a significant effect, then the HRA process proceeds to Stage 2 Appropriate Assessment.
- 1.1.4 The Central Lincolnshire authorities have also prepared an Initial Sustainability Appraisal (incorporating Strategic Environmental Assessment) and this work has been undertaken alongside the HRA, with the two assessments informing each other where appropriate.

1.2 Central Lincolnshire Local Plan

- 1.2.1 Central Lincolnshire covers the combined areas of the City of Lincoln, North Kesteven and West Lindsey, totalling an area of 2116sq.km, with a population of 290,500 (Census 2011).
- 1.2.2 The existing Central Lincolnshire Local Plan was adopted on 24 April 2017 and forms the Development Plan for the Central Lincolnshire authorities. It contains 57 policies and allocates a large number of sites for housing, employment and other uses. A HRA was undertaken for this Local Plan², which concluded no likely significant effects on European sites.
- 1.2.3 The Central Lincolnshire authorities have decided to review the adopted Local Plan, to ensure it remains up to date with changes in national planning policy and that there is a robust and flexible housing supply. The first formal stage of the review was the Issues and Options consultation (Regulation 18), which took place in June and July 2019. The Central Lincolnshire authorities are now consulting on a Draft Central Lincolnshire Local Plan, a further Regulation 18 consultation. The Local Plan proposes a plan period of 2018 to 2040.

¹The Conservation of Habitats and Species Regulations 2017 SI No. 2017/1012, TSO (The Stationery Office), London. Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents>; The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: <https://www.legislation.gov.uk/ukdsi/2019/9780111176573>

² There have been changes in case law (see Section 2.2) since this HRA was undertaken.

1.2.4 The Draft Central Lincolnshire Local Plan has been prepared in accordance with the National Planning Policy Framework (NPPF) and National Planning Practice Guidance (NPPG). Following consultation on this version of the Local Plan, and consideration of all representations received, the Central Lincolnshire authorities intend to publish a Pre-Submission Publication Draft Local Plan, under Regulation 19 of the Planning Regulations.

Table 1.1: Central Lincolnshire Local Plan – Timetable of Production

Local Plan Stage	Target Date	Actual Date
Public Participation (Regulation 18)	June-July 2019	June-July 2019
Further Public Participation (Regulation 18)	February-March 2020	June-August 2021
Pre-submission Publication (Regulation 19)	October-November 2020	Spring 2022
Submission (Regulation 22)	December 2020	Spring 2022
Independent Examination	April – June 2021 (estimate: dates set by Inspector)	Summer-Autumn 2022
Inspector's Report Issued	August 2021 (estimate)	Winter 2022
Adoption of Local Plan	September 2021 (dependent on timescales for examination)	Winter 2022

1.2.5 The Draft Local Plan contains several key elements:

- An overall, high level **vision** for the sustainable growth of Central Lincolnshire;
- A set of 15 **objectives** to ensure that the overall vision of the Local Plan is achieved. The plan objectives are the same as in the Sustainability Appraisal Framework;
- A suite of 83 **strategic and non-strategic policies**, that set an overall strategy for the area, in terms of the pattern, scale and quality of development expected, and that seek to protect and enhance the local environment;
- A **Policies Map** that shows the relevant spatial policies

1.2.6 The strategic and non-strategic policies within the Local Plan cover a number of different themes. The main headings are:

- Introduction, Context, Vision and Objectives
- Spatial Strategy
- Energy, Climate Change and Flooding
- Housing
- Employment
- Retail: City and Town Centres and District, Local and Village Centres
- Tourism and Visitor Economy
- Transport and Infrastructure
- Design and Amenity
- Built Environment
- Natural Environment
- SUEs, Regeneration Areas and Opportunity Areas
- Site Allocations and Locations for Change

- Gypsies and Travellers and Travelling Showpeople
- Ministry of Defence Establishments

1.3 Purpose, Scope and Structure of this Report

- 1.3.1 The purpose of this report is to document the HRA assessment of the Central Lincolnshire Local Plan, as required under Regulation 105 of the Regulations.
- 1.3.2 The scope of the HRA covers the Local Plan vision, objectives, policies and site allocations. It is important to note that some of the site allocations have already been granted planning permission or built out since the 2018 base date of the Plan. The development provided for under site allocations with planning permission has already been subject to assessment under the Habitat Regulations at the project stage, including consultation with Natural England as the statutory conservation body. There is therefore no requirement to re-assess such allocations, where they have already been found to be acceptable by the relevant local planning authority as the competent authority, at a project level.
- 1.3.3 The report sets out the methodology, findings and conclusions of Stage 1 Screening Assessment of the HRA process. It is structured into the following sections:
- **Section 1 Introduction and Background:** provides an overview of the Central Lincolnshire Local Plan and the purpose and structure of this report;
 - **Section 2 Habitats Regulations Assessment Legislation and Requirements:** provides an overview of HRA legislation, guidance and best practice and consultation with Natural England;
 - **Section 3 Habitats Regulations Assessment Process:** identifies the key stages in the HRA process;
 - **Section 4 Identification of European Sites:** sets out those European sites that are included in the assessment and their key pressures, threats and vulnerabilities;
 - **Section 5 HRA Methodology:** sets out the approach taken for the Stage 1 Screening Assessment process, including the main assumptions in relation to potential effects, and the screening categories;
 - **Section 6 Stage 1 HRA Screening Assessment and Conclusions:** identifies whether the plan, either alone or in combination with other plans or projects, is likely to have a significant effect on European sites;

2. Habitats Regulations Assessment Legislation, Guidance and Best Practice

2.1 Legislation

- 2.1.1 The HRA process assesses the potential effects of a plan or project on the conservation objectives of sites afforded the highest level of protection in the UK. These were classified under European legislation (the ‘Habitats Directive’ and the ‘Birds Directive’), but since 1 January 2021, they are protected in the UK by the Habitats Regulations 2017 (as amended).
- 2.1.2 The sites previously formed a network of internationally important sites throughout Europe designated for their ecological status – known as the ‘Natura 2000’ Network. Sites within the network were referred to as ‘Natura 2000 sites’. However, a UK Government Policy Paper³ on changes to the Habitats Regulations 2017 post Brexit stated that any references to Natura 2000 in the Regulations and in guidance now refers to ‘European’ sites and the new ‘national site network’. The national site network includes Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) designated under these Regulations.
- 2.1.3 The Policy Paper goes on to state that proposed SACs, potential SACs, Ramsar sites and any areas secured as sites compensating for damage to a European site, also require a HRA because they are protected by government policy. Ramsar sites (Designated Wetlands of International Importance) do not form part of the national site network, however they remain protected in the same way as SPAs and SACs. Many Ramsar sites overlap with SPAs and SACs and may be designated for the same or different species and habitats.
- 2.1.4 Provision 105 (1) of the Conservation of Habitats and Species Regulations 2017 requires Appropriate Assessment (AA) to be undertaken for plans and projects which are likely to have a significant effect on one or more European sites, either individually, or in combination with other plans and projects. This does not apply to plans or projects directly connected to the conservation management of the features for which the European site was designated.
- 2.1.5 The term ‘Habitats Regulations Assessment’ has emerged to refer to the several distinct stages of the overall assessment process, from screening through to Imperative Reasons of Over-Riding Public Interest (IROPI). The purpose of HRA is to assess the impacts of a plan or project, in combination with the effects of other plans and projects, against the conservation objectives of a European site and to ascertain whether it would adversely affect the integrity of that site. Where significant negative effects are identified, alternative options or mitigation measures should be examined to avoid any potential damaging effect.

2.2 Recent Case Law

- 2.2.1 In April 2018, the Court of Justice for the European Union, in *People Over Wind & Sweetman v Coillte Teoranta*⁴, ruled that when making screening decisions for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures. This means that measures which have been specifically added to a plan or project to achieve the purpose of avoiding or reducing its harmful effects on a habitats site should not be considered at the screening stage. A full

³ DEFRA (2021) Habitats Regulations Assessments: Protecting a European Site

⁴ <http://curia.europa.eu/juris/document/document.jsf?docid=200970&doclang=EN>

and precise analysis of the measures capable of avoiding or reducing any significant effects on the site concerned must be carried out specifically at Stage 2 Appropriate Assessment, and not as part of the Screening stage. This is a departure from the approach established by domestic case law. The Habitats Regulations have been amended to reflect this change in the law⁵.

2.2.2 In March 2017, a high court ruling⁶ found that traffic increases and subsequent air pollution in roads within 200m of a European site, should be considered alone and in-combination with relevant plans and projects.

2.2.3 In November 2018, the *Holohan v An Bord Pleanala* judgement stated that:

“Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an ‘appropriate assessment’ must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.”

2.2.3 This means that a HRA must consider the potential for effects on habitats and species located beyond the boundaries of European sites that may be important in supporting the ecological processes of the qualifying features.

2.3 HRA Guidance and Best Practice

2.3.1 The Regulations do not prescribe a particular methodology for carrying out the HRA of Local Plans.

2.3.2 The HRA of the Central Lincolnshire Local Plan will be carried out in accordance with current available guidance and best practice, and seeks to meet the requirements of the Regulations. The main guidance that will be referred to includes:

- Assessment of Plans and Projects Significantly Affecting Natura 2000 sites - Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC’ (European Commission, 2001);
- Appropriate Assessment – Guidance on the Use of Habitats Regulations Assessment (Ministry of Housing, Communities & Local Government July 2019⁷; and
- Scottish Natural Heritage guidance on HRA of Plans: ‘Habitats Regulation Appraisal of Plans Guidance for Plan Making Bodies in Scotland’ (David Tyldesley and Associates for Scottish Natural Heritage, August 2010 and updated January 2015).

2.3.2 Although the later guidance is for Scottish Plan making bodies, the authorities consider that the general principles and approaches set out in this guidance are transferable and can be applied to HRA in England, subject to minor revisions.

2.4 Definition of Key Terms

⁵ <http://www.legislation.gov.uk/ukxi/2018/1307/contents/made>

⁶ *Wealden District Council v Secretary of State for Communities and Local Government & ors:* <http://www.bailii.org/ew/cases/EWHC/Admin/2017/351.html>

⁷ <https://www.gov.uk/guidance/appropriate-assessment>

- 2.4.1 “**Integrity**” is defined as “...*the site’s coherence, ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of species for which it was classified*” (ODPM Circular 06/2005, para 20.). The ‘integrity test’ is undertaken during Stage 2 Appropriate Assessment.
- 2.4.2 Regulation 105 of the Habitats Regulations, requires an assessment of the ‘likely significant effects’ of a land use plan. A “**Significant**” effect is one that could adversely impact on a European site’s integrity, i.e. it would undermine the conservation objectives for the site. It is typically determined by considering the extent, complexity, probability, duration, frequency and reversibility of the effect.
- 2.4.3 The likelihood of it occurring should adopt the precautionary principle⁸, taking into account the ecological circumstances of the site. An effect should be considered “**likely**” “*if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site.*” (ECJ Case C-127/02 “Waddenzee” Jan 2004).
- 2.4.4 Significance will vary from site to site according to conservation sensitivities and magnitude of potential impact. Assessment is triggered by likelihood, not certainty, in line with the precautionary principle. Therefore Stage 1 of the HRA considers where the effects are ‘likely’ and ‘significant’. Those effects which are trivial may be disregarded. Significant effects are also determined in-combination with other plans or projects and take account of cumulative effects.

2.5 Consultation with Natural England

- 2.5.1 Natural England is the statutory nature conservation body for HRA, who will assist in obtaining the necessary information, help agree the process (such as the selection of sites and the scope of the appraisal) and work with the competent authority on agreeing the outcomes and mitigation proposals. The authorities must consult Natural England, and have regard to its advice, under provision 105 (2) of the Habitats Regulations.
- 2.5.2 The authorities may also consult other bodies and the general public, if considered appropriate (provision 105 (3)). This HRA Report has been published on the Central Lincolnshire website and as such, views on the report are welcomed from anybody, during the consultation period of the Local Plan.
- 2.5.3 This HRA Report has been sent to Natural England in accordance with provision 105 (2).

⁸ This is described by the European Commission as being: “*If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human, animal or plant health, which would be inconsistent with protection normally afforded to these within the European Community, the Precautionary Principle is triggered*”.

3. Main Stages of HRA

3.1 Stages of HRA

3.1.1 There are 4 main stages to the HRA process.

3.1.2 The first step is to decide whether a plan or project should be subject to HRA. This will depend on the type of plan or project and on its potential effects on a European site. All plans and projects (including planning applications) which are not directly connected with, or necessary for, the conservation management of a habitat site, require consideration of whether the plan or project is likely to have significant effects on that site.

3.1.3 A competent authority must therefore first consider: '*Is the plan or project directly connected with or necessary to the management of a European site for nature conservation purposes?*'. If the answer is no, which is the case for the Draft Central Lincolnshire Local Plan, then HRA is required and the following sequence of stages should be undertaken:

Stage 1 Screening for Likely Significant Effects (LSE)

3.1.4 The first stage of the HRA is to identify the likely impacts of a plan or project (alone or in combination with others) upon a European site, and to consider whether these impacts are likely to be 'significant', i.e. Likely Significant Effects (LSE).

3.1.5 The aim of Stage 1 Screening is to identify and screen out those parts of a plan or project that, either alone or in-combination, without detailed assessment, can be determined as unlikely to result in significant effects upon European sites. The screening exercise should be approached on a precautionary basis. If the screening stage concludes that there are likely to be no significant impacts on European sites then there will be no need to progress to Stage 2 Appropriate Assessment. If effects are judged likely or uncertain, the precautionary principle is applied and the Plan is considered in more detail in Stage 2.

Stage 2 Appropriate Assessment (AA)

3.1.6 Where the screening process undertaken in Stage 1 determines that the Plan is likely to have a significant effect on a European site, the assessment proceeds to Stage 2 AA. The Ministry of Housing, Communities & Local Government published guidance on AA explains:

*"Where the potential for likely significant effects cannot be excluded, a competent authority must make an appropriate assessment of the implications of the plan or project for that site, in view the site's conservation objectives. The competent authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the habitats site."*⁹

3.1.7 This stage considers the impact of a plan or project (alone or in combination with others and directly or indirectly) on the integrity of the European site, with respect to the site's conservation objectives and to their structure and function¹⁰. The scope and content of the AA will depend on the nature, location, duration and scale of the proposed plan or project and the interest features of the relevant protected site. The assessment needs to be proportionate and sufficient to enable the competent authority to determine whether the plan or project will adversely affect the integrity of the site.

3.1.8 Should the AA identify significant effects on a site's integrity, there is a need to consider potential mitigation. Mitigation measures are protective measures forming part of a project

⁹ Paragraph 001 Reference ID: 65-001-20190722

¹⁰ Natural England's formal advice on conservation objectives for European sites is publicly available online: <http://publications.naturalengland.org.uk/category/6490068894089216>

and are intended to avoid or reduce any direct adverse effects that may be caused by a plan or project, to ensure that it does not have an adverse effect on the integrity of a protected site(s). The mitigation hierarchy should be applied. Alternatives, such as changes to the Plan, should be examined first to avoid any potential damaging effects. If no alternative exists, impact reduction measures should be defined and evaluated. If effects remain after all alternatives and mitigation measures have been considered, the plan or project proceeds to Stage 3.

Stage 3 Assessment of Alternative Solutions

3.1.9 This stage examines and recommends alternative ways of achieving the objectives of the project or plan which avoid adverse impact on the integrity of the European site. If, after mitigation, there will still be a negative effect on the integrity of a European site, the plan should be dropped. The only exceptions are where it can be shown that there are 'imperative reasons of overriding public interest'.

Stage 4 IROPI and Compensatory Measures

3.1.9 After consideration of a plan or project under stages 1 to 3, and if it cannot be ascertained that a proposal will not adversely impact on the integrity of a European site, the proposal can only proceed if there are no alternative solutions and there are IROPI. Any necessary compensation measures must be taken to secure the integrity of the European site network.

3.1.10 The stages outlined above must be undertaken with the rigorous application of the precautionary principle¹¹. This requires those undertaking the exercise to be confident that the plan will not have a significant impact on relevant conservation objectives. Where uncertainty or doubt remains, an adverse impact should be assumed.

¹¹ The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: "*When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis.*"

4. Identification of European Sites

4.1 European sites that may be affected by the Local Plan

4.1.1 This section of the report identifies the European sites that may be affected by development proposed in the Consultation Draft Central Lincolnshire Local Plan and therefore those sites that should be initially considered as the study area for the HRA.

4.1.2 There are no European sites within the boundary of Central Lincolnshire. However, the Local Plan has the potential to impact on areas that are beyond the Plan area. While distance can be used as a starting point, it is commonly recognised in HRA guidance that when considering the potential for effects on European sites that distance itself is not a definitive guide to the likelihood or severity of an impact. There are other factors that will influence the relative distance at which an impact can occur, such as the prevailing wind or river flow direction. This means that development proposed in a Local Plan that is some distance away from a European site could potentially affect the site, and therefore should be considered as part of HRA screening.

4.1.3 Rather than rely on distance alone, best practice is to use a ‘source-pathway-receptor’ model which focuses on whether there is a pathway from the **source** (the direct or indirect change occurring as a result of development) by which impacts from the Plan can affect the vulnerabilities/sensitivities of a European sites’ environmental conditions. The **pathway** is the route or mechanism by which any likely significant effect would be manifest in the environment and would reach the **receptor** (the European site). The potential pathways for unmitigated effects arising from minerals and waste operations include:

- Air – localised air pollution from increased traffic on the roads, dust emissions, whether potential impacts can reach the European site/s via the prevailing wind;
- Water – surface or groundwater pollution and hydrogeological impacts to water-dependent sites including changes in water levels associated with dewatering and/or discharge;
- Land take – direct and indirect impacts from habitat loss and degradation, both within and outside of European site boundaries;
- Habitat/Species disturbance/displacement – noise and visual disturbance from human activities, introduction of invasive species.

4.1.4 Using this approach, the European sites within or adjacent to the plan area with the potential to be affected by the Local Plan are identified in **Table 4.1** below. A 15km buffer was also applied from the Local Plan boundary, in order to take a precautionary approach in identifying sites that may potentially be subject to transboundary impacts. A map showing the location of these European sites is provided overleaf in **Figure 4.1**. Detailed information about each site is provided in **Appendix 1**.

4.1.5 The following European sites were considered but scoped out of the HRA for the following reasons:

- **Baston Fen SAC** –The SAC is a 2km linear drainage channel intensively managed by the Welland and Deeping Internal Drainage Board. It drains into a gravel drain: it is a counter drain section running alongside the River Glen but not directly linked to the river. There is no direct hydrological pathway link between the SAC and potential impacts arising from the Central Lincolnshire area.

- **Grimsthorpe Park SAC** – Grimsthorpe Park is not publicly accessible and therefore any increase in the population within Central Lincolnshire cannot impact on this site in terms of increased disturbance from recreation. There is no direct hydrological pathway link between the SAC and potential impacts arising from the Central Lincolnshire area.

4.1.6 Threats and pressures to the integrity of the qualifying features of each European site have been identified through reviewing JNCC standard data forms and information sheets¹², and Natural England's SIPs¹³ and Supplementary Advice on Conservation Objectives¹⁴. The full range of threats and pressures at each European site is covered in more detail in **Appendix 1. Table 4.2** below sets out a summary of those threats and pressures.

Table 4.1: European Sites potentially affected by the Local Plan

Name of European site (location)	Designation			Approximate distance from plan boundary to boundary of European site) (km)
	Ramsar	SPA	SAC	
Sites lying outside Central Lincolnshire but wholly or partly within 15km of its boundary				
1.Humber Estuary (North Lincolnshire/Lincolnshire)	✓	✓	✓	5.6km
2.Thorne Moor (Doncaster)			✓	13.2km
3.Thorne and Hatfield Moors (Doncaster)		✓		13.2km
4.Hatfield Moor (Doncaster)			✓	9.3km
Sites outside Central Lincolnshire beyond 15km of its boundary that may be hydrologically linked				
7.The Wash (Norfolk)	✓	✓		17km
8.The Wash and North Norfolk Coast (Norfolk)			✓	17km

Table 4.2: Summary of Threats and Pressures to Site Integrity of Qualifying Features

Name of European Site	Threats and Pressures to Site Integrity of Qualifying Features (P = pressure T = threat)
Humber Estuary SPA and Ramsar	<ul style="list-style-type: none"> • Changes in water supply or flow and water quality (P) • Coastal squeeze (T) • Changes in species distributions (T) • Undergrazing (P) • Invasive species (T) • Natural changes to site conditions (P/T) • Public/access disturbance (P)

¹² <https://jncc.gov.uk/>

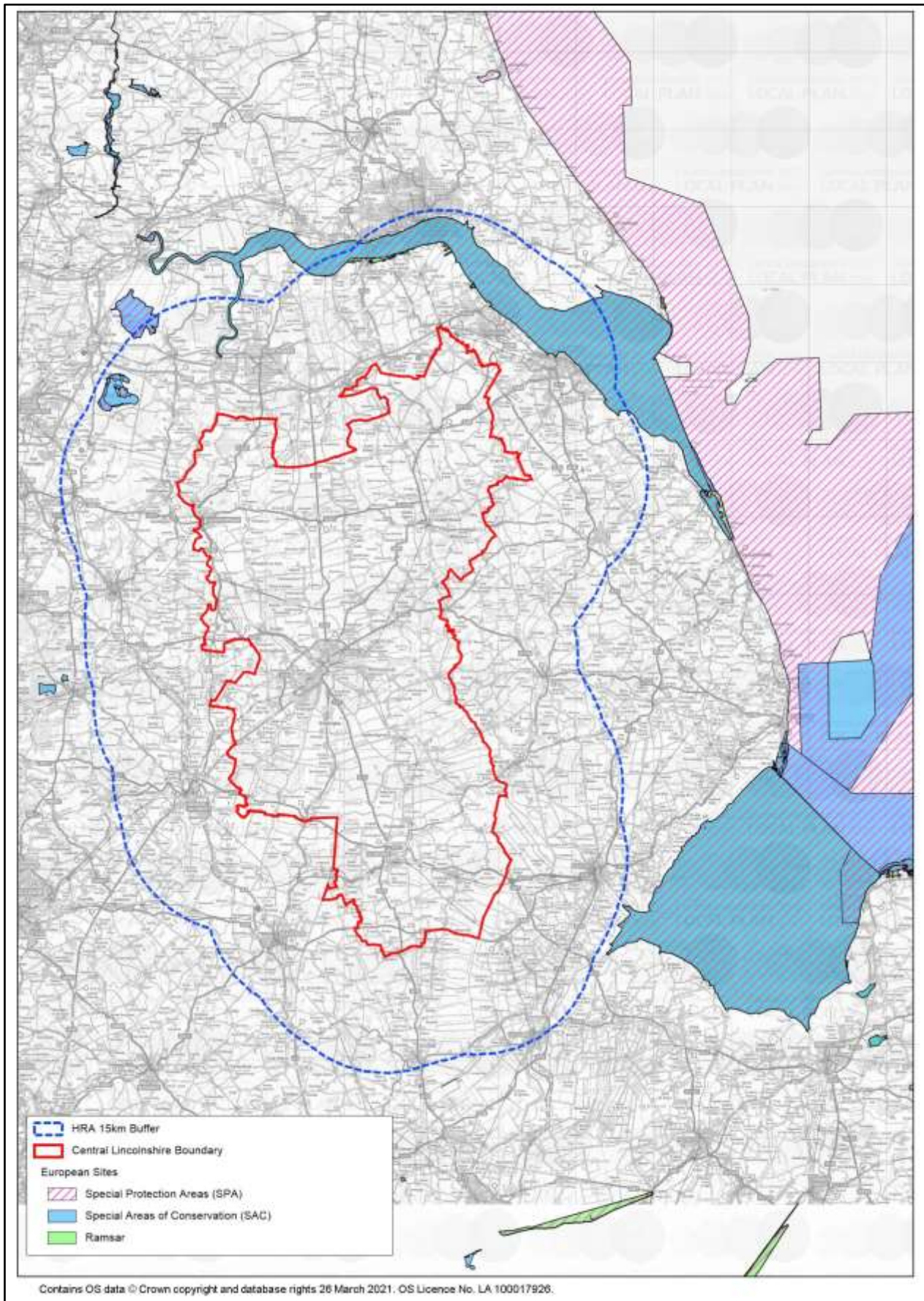
¹³ <http://publications.naturalengland.org.uk/category/5458594975711232>

¹⁴ <http://publications.naturalengland.org.uk/category/6490068894089216>

Name of European Site	Threats and Pressures to Site Integrity of Qualifying Features (P = pressure T = threat)
	<ul style="list-style-type: none"> • Fisheries: Fish stocking (P) • Direct land take from development (T) • Shooting/scaring (P) • Direct impact from third party (T) • Inappropriate scrub control (P) • Changes in surrounding supporting off-site habitat (T) • Predation (T) • Air pollution: impact of atmospheric nitrogen deposition (on supporting habitats) (P/T) • Climate Change (T)
Humber Estuary SAC	<ul style="list-style-type: none"> • Water pollution (P/T) • Coastal squeeze (T) • Changes in species distributions (T) • Undergrazing (P) • Invasive species (T) • Natural changes to site conditions (P/T) • Public/access disturbance (P) • Fisheries: Commercial marine and estuarine (P/T) • Direct land take from development (T) • Air pollution: impact of atmospheric nitrogen deposition (P) • Direct impact from third party (T)
Thorne Moor SAC	<ul style="list-style-type: none"> • Drainage and water levels (P) • Inappropriate scrub control (P) • Air pollution: impact of atmospheric nitrogen deposition (P/T) • Peat extraction (P) • Invasive species (T) • Changes in surrounding land use (T) • Climate change (T)
Thorne and Hatfield Moors SPA	<ul style="list-style-type: none"> • Public/access disturbance (T) • Planning permission general (P) • Air pollution: impact of atmospheric nitrogen deposition (on supporting habitats) (P/T) • Changes in surrounding supporting off-site habitat (T) • Changes in water levels (P) • Climate change (P)
Hatfield Moor SAC	<ul style="list-style-type: none"> • Drainage and water levels (P) • Inappropriate scrub control (P) • Air pollution: impact of atmospheric nitrogen deposition (P/T) • Peat extraction (P) • Invasive species (T) • Changes in surrounding land use (T) • Climate change (T)

Name of European Site	Threats and Pressures to Site Integrity of Qualifying Features (P = pressure T = threat)
The Wash SPA	<ul style="list-style-type: none"> • Public/access disturbance (T) • Fisheries: Recreational marine and estuarine (T) • Fisheries: commercial marine and estuarine (T) • Coastal squeeze (T) • Changes in surrounding supporting off-site habitat (T) • Predation (T) • Air pollution: impact of atmospheric nitrogen deposition (on supporting habitats) (P/T) • Changes in water supply or flow and water quality (P)
The Wash and North Norfolk Coast SAC	<ul style="list-style-type: none"> • Siltation (T) • Fisheries: Recreational marine and estuarine (T) • Invasive Species (T) • Inappropriate coastal management (T) • Fisheries: commercial marine and estuarine (T) • Coastal squeeze (T) • Air pollution: impact of atmospheric nitrogen deposition (P) • Change in land management (T) • Changes in surrounding supporting off-site habitat (T) • Climate change (T) • Changes in water supply or flow and water quality (P)

Figure 4.1: Location of European Sites within 15km of the Central Lincolnshire Plan Area Boundary



4.2 Sources of Information

European sites

4.2.1 Relevant information on each European site, including its features of interest, were taken from the Natura 2000 Data Form or the Information Sheet on Ramsar Wetlands for the designated site, accessed from the JNCC website (www.jncc.gov.uk). Additional details of each site (where they are either a SPA or SAC) were taken from Natural England's Site Improvement Plans (SIPs). The location, extent and site area of the European sites in GIS format was sourced from the UK Government Open Data Portal at <https://data.gov.uk/>.

Natural England's Impact Risk Zones

4.2.2 Natural England has developed a GIS tool and dataset to make a rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

4.2.3 European sites are underpinned by the SSSI designation and their interest features and sensitivities are covered by the SSSI IRZs. Where the notified features of the European site and SSSI are different, the SSSI IRZs have been set so that they reflect both. The SSSI IRZs can therefore be used as part of a HRA to help determine whether there are likely to be significant effects from a particular development on the interest features of the site. The IRZs are therefore a useful guide to identify the potential risks to European sites from the Local Plan and will be drawn upon in the Stage 1 HRA Screening of the Draft Central Lincolnshire Local Plan.

Indicative Functional Land IRZs and Recreational Impact IRZs

4.2.4 Functionally-linked land comprises areas outside the designated European site boundary that are known to be regularly used for foraging and/or roosting by qualifying species. Natural England has prepared an indicative functional land IRZ map for The Wash. This can be viewed in **Appendix 1**.

4.2.5 Natural England also uses the IRZ tool to identify zones of potential recreational pressure on SSSIs from proposed development. Where a SSSI is considered to be at significant risk from recreational pressure, it has been given a zone of potential risk using IRZ mapping. These zones have been defined by Natural England following visitor surveys and discussions with land managers. The IRZs for the European sites screened into this HRA have been checked and, currently, there are none that identify recreational pressure as a potential risk.

5 HRA Methodology

5.1 Screening Methodology

Stages in the HRA Screening process

5.1.1 The HRA screening process is summarised in **Table 5.1** below. The HRA process is iterative and will be revisited as the Local Plan develops.

Table 5.1: HRA Stage 1 Screening Key Stages

Stages	Habitats Regulation Assessment	Location in this Report
Stage 1. Screening for likely significant effects	Task 1 – Identify European sites in and around the plan area that should be considered in the assessment.	Section 4:Table 4.1
	Task 2 – Gather information on the European sites, including the vulnerabilities of their qualifying features, conservation objectives and condition of site. Identify the changes to environmental conditions that may occur as a result of implementing the Plan.	Section 4:Table 4.2, Appendix 1
	Task 3 - Identify key components of the emerging Local Plan, including the plan objectives and policies.	Section 1
	Task 4 – Determine, through a screening exercise, all aspects of the Plan which would have no effect on a European site and those aspects where it is not possible to rule out the risk of significant effects, either alone or in combination with other plans or projects.	Section 6 and Appendix 2
	Task 5 - Consider whether other plans or projects, in conjunction with the Local Plan, would have the potential for adverse effects on the qualifying features of identified sites.	Section 6 and Appendix 3
	Task 6 - Conclude whether there are likely significant effects. If there are no likely significant effects, consult Natural England on the screening recommendation that	Section 6

Stages	Habitats Regulation Assessment	Location in this Report
	the further AA stages of the HRA are not necessary.	
	Task 7 – If, after Task 6 significant effects are judged likely or uncertainty exists, or Natural England disagrees with the screening recommendation that an AA is not necessary proceed to Stage 2 AA.	Section 6

Screening Approach

5.1.2 The screening of the Plan involves a series of steps to remove or ‘screen out’ those elements of the Plan that are not likely to have a significant effect on a European Site, and to ensure other aspects of the Plan are ‘screened in’ where further appraisal is required. An assessment of the Plan will be undertaken using the criteria set out in **Table 5.2**.

5.1.3 These are broadly based on the screening categories set out within the HRA guidance for Scotland. When considering significant effects, effects which would not undermine the conservation objectives of a European site should not be regarded as significant: thus, where a policy/aspect of the Plan may potentially have a positive significant effect on a European site, this policy/part can be ‘screened out’ because the impact would not be negative.

Table 5.2: Screening Categories for HRA Screening: Categorising the Potential Effects of the Plan

Screening Category	Type of Policy
‘N’ categories: screened out or eliminated elements of the Plan (Appropriate Assessment not required) Plan elements assessed as not likely to have a significant effect on a European site if implemented, either alone or in combination with effects from other plans or projects.	
N1	General Policy Statement General strategy statement or general criteria based policy not likely to have a significant effect as the policy will not lead to development itself.
N2	Policy refers to proposals that are not generated by the Plan and therefore excluded from the assessment. For example, a policy that refers to a transport project, which is identified in another Plan and possibly by another authority (and this will have been subject to HRA for the other Plan).
N3	Policies that intend to protect, conserve or enhance the natural (including biodiversity), built or historic environment, or that positively steers development away from European sites.
N4	Policy that will not lead to development or other change, because it is qualitative or design criteria based, which guide development.
N5	Policy makes provision for change or promotes development but would have no likely significant effect on a European site Policies that promote development, but have no likely significant (negative) effect because there is

	no physical, ecological, hydrological, chemical or biological link or pathway between the changes the policy may cause and the site's qualifying interests of any European site. This category also covers policies that may have a positive effect; or would not otherwise undermine the conservation objectives for the site. A Plan's positive effects on a site cannot be regarded as 'significant' and can therefore be 'screened out'.
N6	Policies that make provision for change/promotes development in specific areas, but would have no significant effect on a European Site Policies that could have effects that are trivial or 'de minimis', or so restricted in scale or remote from a European site, even if combined with other effects, that they would not undermine the conservation objectives for the European site. For example, a policy that focuses development in existing urban areas whereby the likelihood of the policy affecting an isolated, relatively inaccessible European site is remote.
N7	Policies that promote development or change but where it is so general it is not known where, when or how the aspect of the Plan may be implemented or where the potential effects may occur, or which European sites, if any, may be affected. These are very general / strategic policies or proposals which are too general to identify any effect as it is not known where, when or how the aspect of the Plan may be implemented, or where any potential effects may occur, or which European Sites, if any, may be affected. These plan aspects may be very similar to the general policy statements screened under N1, but are different in that they promote overall change.
'P' category: screened in elements of the Plan (Appropriate Assessment required) Plan considered likely to have a significant effect on a European site	
P	Policy/proposal/element of the Plan with potential to have a likely significant effect and therefore subject to further assessment, including consideration of potential mitigation measures. This category will cover: <ul style="list-style-type: none"> • Policies which have been identified as having likely significant effects, either alone or in combination, and directly or indirectly, and are therefore subject to further appraisal; and • Policies where it is not possible to conclude likely significant effects as this is currently uncertain.

5.1.4 The outcome of the screening assessment will be recorded and presented in screening matrices. A colour code will be applied to the categories used to record the potential effects of the Local Plan policies and site allocations on European sites. Green categories record that there are unlikely to be significant effects (and therefore appropriate assessment is not required). Amber categories record that there are likely to be significant effects, or uncertainty remains as to whether there will be likely significant effects (and therefore appropriate assessment is required).

5.2 Potential Impacts of the Local Plan on European Sites

5.2.1 The provisions for growth and new development in the Local Plan has the potential to generate a range of impacts that, depending on their nature, magnitude, location and duration, can potentially significantly impact on European sites. Most potential impact

pathways are associated with ‘broad quantum of development’ or ‘population growth’ aspects of a Local Plan.

5.2.2 The main ways by which the Local Plan could impact on European sites are through individual allocations of land for development that are directed to a specific location; through in combination effects resulting from the cumulative impacts of development associated with the Local Plan and with the plans and programmes of external authorities.

5.2.3 The main possible pathways or categories of effect arising from the Local Plan are therefore:

Broad Category of Potential Effects on European Sites	Examples of Activities Resulting in Impacts
Habitat loss/ fragmentation (including loss of functionally linked land) and effects on species away from European Sites	<ul style="list-style-type: none"> • Loss of on-site habitat within European site boundary as a result of direct land take; • Loss of off-site, functional habitat outside of European site boundary as a result of direct land take; • Habitat fragmentation/loss of connectivity. • Species mortality (for example, due to collision risk)
Public access and disturbance: recreation and visitor pressure	<ul style="list-style-type: none"> • Potential for direct damage to habitats from trampling and erosion; • Potential for increased disturbance to species from larger footfall of people and dogs. Impacts will depend on scale, type and predictability of disturbance. Certain species, when breeding and foraging, are particularly sensitive; • Eutrophication from dog fouling; • Spread of invasive species.
Disturbance: urbanisation effects	<ul style="list-style-type: none"> • Noise, vibration, light pollution, both from construction activity and once development is occupied; • Fly-tipping of garden waste can lead to spread of invasive species; • Predation from domestic cats; • Vandalism and anti-social behaviour; • Increased risk of fire.
Hydrological: Changes in water levels and flows	<ul style="list-style-type: none"> • Potential for drying and reduced water levels arising from increase in water abstraction levels to provide supply (e.g. new housing). Changes to water levels can impact on river flow and water quality; • Flooding/storm water;

	<ul style="list-style-type: none"> • Potential impact on groundwater in water cycle by buildings altering groundwater flow.
Hydrological: Changes in water quality	<ul style="list-style-type: none"> • Potential increase in pressure on sewage infrastructure network and capacity; • Potential increase in volume of waste water discharges (consented) which can lead to reduced water quality; • Hydrological cycle impacts from additional take up of land, loss of permeable surfaces and topography alteration, potentially resulting in flood risk and water quality impacts; • Potential increase in accelerated run off arising from new hard standing/non-permeable surfaces of new development; • Potential increase in surface water run off as a result of new development, which can lead to contamination of watercourse links and reduced water quality.
Air pollution	<ul style="list-style-type: none"> • Dust emissions (construction phase); • Increased traffic movements and trips arising from construction and once development is occupied, leading to increased air emissions which could damage vegetation and harm species sensitive to changes in air quality; • Potential for increased emissions from buildings.

5.3 Screening Assumptions

5.3.1 This section sets out the assumptions that will be applied when undertaking Stage 1 Screening of the Local Plan. The vulnerabilities/sensitivities of each European site have been considered for relevance to the Local Plan.

5.3.2 Using these assumptions, it is possible to ‘screen out’ some European sites and impact pathways prior to the Stage 1 screening assessment, as the effects would be trivial or ‘de minimis’, or so restricted in scale or remote from a European site, even if combined with other effects, that they would not undermine European site conservation objectives.

Habitat loss/ fragmentation (including loss of functionally linked land)

5.3.3 Any development resulting from the Central Lincolnshire Local Plan would take place within the administrative boundaries of the Central Lincolnshire authorities. **Direct land take from European sites can therefore be ruled out, as there are no European sites within Central Lincolnshire.**

5.3.4 Damage or loss of off-site, supporting habitat (i.e. land beyond the boundary of European sites that is functionally linked as it may be used by the qualifying species of a site) from development is more likely to be an issue. Functionally linked habitat refers to land or water which is linked to a qualifying species. It may be located some distance from a European site, therefore development some distance from a European site can have an effect on the site if its interest features are reliant on habitats being affected by the development. This includes land which may provide offsite foraging and roosting habitat and movement corridors for mobile species such as birds, bats and fish.

5.3.5 Maximum foraging distances for protected sites notified for bird species have been derived by Natural England¹⁵ and are set out in the table below.

	Maximum Foraging Distance
Sites notified for breeding bird assemblages (excluding ground-nesting heathland species, stone-curlew, marsh harrier & nightjar)	500m Some breeding SSSI birds of prey (peregrine, merlin, hen harrier & honey buzzard) can also forage up to 4km.
Sites notified for wintering birds (except wintering waders and grazing wildfowl, wigeon and geese)	500m Wintering marsh harrier and hen harrier can forage 10s of km. Owing to the extensive presence of farmland within 10s of km and low densities of birds, the standard distance of 500m relating to all wintering birds is deemed acceptable.
Sites notified for wintering waders (except golden plover and lapwing), brent goose & wigeon	2km Breeding marsh harrier can also forage up to 4km and are likely to make significant use of farmland habitat beyond semi-natural areas encompassed by site boundaries. Owing to extensive presence of farmland and low densities of birds, a reduced distance of 2km is deemed generally acceptable.
Sites notified for ground-nesting heathland species (breeding nightjar & stone curlew)	2km Many sites with such sensitive features have issues of recreational disturbance. Buffers need to take into account travel to sites from proposed residential developments. For some Heathland SSSIs/SPAs most of the suitable habitat is designated, areas surrounding the sites are largely built up and the extent of functionally connected land will be limited. Nightjar - up to 4km foraging distance for nightjars but unlikely to be >2km beyond site boundary.

¹⁵ Natural England (2018) Guidance on evaluating the ecological consequences of badge culling on European Sites

	Maximum Foraging Distance
Sites notified for wintering lapwing and golden plover	15-20km Golden plover can forage up to 15km from a roost site within a protected site. Lapwing can also forage similar distances. Both species use lowland farmland in winter and it is usually difficult to distinguish between designated populations and those present within the wider environment. Developments affecting functionally linked land more than 10km from the site are unlikely to impact significantly on designated populations.
Sites notified for wintering white-fronted goose, greylag goose, Bewick's swan, whooper swan & wintering bean goose	10km
Sites notified for wintering pink-footed goose, barnacle goose	15-20km

5.3.6 The Bat Conservation Trust has identified Core Sustenance Zones (CSZs)¹⁶ for different bat species, which refers to the area surrounding a bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation of the bat colony using the roost. The zones vary depending on species; from 1km to 6km.

5.3.7 There is the possibility that designated bird species might collide with tall buildings or structures, such as wind turbines, if they are located close to a designated site or within foraging range of bird species, resulting in collision mortality.

5.3.8 With regards to the European sites within the study area, site information gathered for **Appendix 1** suggests the following European sites are sensitive to the loss of functionally linked habitat and/or effects on species away from European Sites due to the presence of qualifying mobile species:

- The Humber Estuary SPA/Ramsar
- Thorne and Hatfield Moors SPA
- The Wash SPA/Ramsar

5.3.9 The Humber Estuary SPA/ Ramsar qualifies as a SPA /Ramsar due to the presence of a range of waterfowl, waders and birds of prey. Species such as the golden plover are known to feed on parcels of agricultural land outside of European site boundaries. This has been documented in a number of academic articles and research reports by the British Trust for Ornithology (BTO). A BTO research report highlighted that flocks, or at least individuals, of golden plover made regular movements of 10-12km between agricultural fields, highlighting the potentially long foraging trips this species undertakes.¹⁷ Field size and surrounding land uses are also factors to be taken into consideration. As the Humber Estuary SPA/ Ramsar is within 10km of the Central Lincolnshire boundary, likely significant effects relating to physical loss or damage of off-site habitat should be given further consideration.

¹⁶ BCT (2020) Core Sustenance Zones and habitats of importance for designing Biodiversity Net Gain for bats. Bat Conservation Trust, London

¹⁷ Gillings S. & Fuller R.J. (1999). Winter Ecology of Golden Plovers and Lapwings: A review and Consideration of Extensive Survey Methods. BTO Research Report No. 224

- 5.3.10 Thorne and Hatfield Moors SPA qualifies as a SPA due to the presence of a breeding population of nightjars. The nightjar population has been surveyed annually since 2005. On-going survey has revealed the feeding flights are not confined to the SPA boundary, and the birds will utilise surrounding habitat, flying up to 5km from their nest sites for feeding purposes, although few flew more than 3km from the site boundary.¹⁸ As Thorne and Hatfield Moors SPA is beyond 5km of the Central Lincolnshire boundary, it can be screened out from further consideration.
- 5.3.11 The Wash SPA/ Ramsar is the most important migratory and over-wintering site for waterbirds in the UK. In addition, the sites support two species of breeding tern (common and little). Farmland adjoining the protected sites is also important to a number of species e.g. Bewick's swan and pink-footed goose for foraging and roosting. Natural England have prepared an indicative goose and swan functional land IRZ for The Wash (see **Appendix 1**), however none of the identified land is within Central Lincolnshire. As The Wash SPA/ Ramsar is beyond 15km from the Central Lincolnshire boundary, it can be screened out from further consideration.
- 5.3.12 **Therefore, likely significant effects relating to physical loss or damage of off-site habitat, or effects on species away from the European Site, need to be considered for the Humber SPA/ Ramsar only.**

[Public access and disturbance: recreation and visitor pressure](#)

- 5.3.13 An increase in population is expected to increase the numbers of people visiting the countryside, which may include increased visitor numbers to European sites. Visitors can trample vegetation, cause erosion and disturb sensitive features, such as birds, through both terrestrial and water-based forms of recreation. Dogs taken on to sites can disturb breeding and wintering birds and cause eutrophication through the deposition of faeces.
- 5.3.14 The Central Lincolnshire Local Plan will result in housing growth and an associated population increase. Where increases in population are likely to result in significant increases in recreation at a European site, either alone or in-combination, the potential for likely significant effects will require assessment.
- 5.3.15 In theory, sites that are closest to the urban area and other proposed allocation sites may be expected to attract larger numbers of visitors than sites further away. However, HRAs of other Local Plans have considered this issue and research has demonstrated that the majority of visitors to such sites are by car. A visitor assessment of the Thames Basin Heaths SPA¹⁹ determined that the majority of visitors travel by car and 94% of visitor postcodes fell within a 5km radius of the SPA boundary. A visitor study undertaken by Footprint Ecology in 2011²⁰, found that the median distance among visitors to Breckland SPA was 8.81km. In short, there is no standard method for defining the 'zone of influence' of increased recreational and visitor pressure, and a range of approaches have been adopted nationally.

¹⁸ Natural England (2019) European Site Conservation Objectives: Supplementary advice on conserving and restoring site features, Thorne and Hatfield Moors Special Protection Area

¹⁹ Fearnley, H. and Liley, D. 2013. Results of the 2012/13 visitor survey on the Thames Basin Heaths Special Protection Area (SPA). Natural England Commissioned Reports

²⁰ Fearnley, H., Liley, D. and Cruickshanks, K. (2010). Visitor survey from results Breckland SPA. Footprint Ecology.

5.3.16 In terms of the European sites relevant to this HRA, a visitor survey of the Humber Estuary²¹ found that 70% of those surveyed had travelled by car, living a median distance of 4.4km from the survey point. A visitor survey of the Wash and Gibraltar Point to inform the South East Lincolnshire Local Plan²², also revealed that the majority of visitors arrived by car and that half of all visitors lived within 7.5km or less of the survey points.

5.3.17 Natural England advised a nearby council (Peterborough City) that any development within 8km of European sites should be taken into consideration in the HRA of the Peterborough Local Plan. Therefore, 8km is considered a reasonable and proportionate distance inside which recreation and visitor pressure should be considered for the Central Lincolnshire Local Plan and which could require mitigation measures. The nature of the proposed development will be taken into account in relation to this impact. For example, employment sites are less likely to result in increased recreation pressure than residential sites, as the employees will be in work within the employment site for the majority of their time spent there. Therefore employment site allocations with no housing element have been assumed to not give rise to increased recreational pressure.

5.3.18 A review of European Sites within 8km of the Central Lincolnshire boundary identified the following sites:

- Humber Estuary SAC
- Humber Estuary SPA/ Ramsar

5.3.19 Using this approach, the likely significant effects of increased recreation and visitor pressure needs to be considered in relation to the Humber Estuary SAC and the Humber Estuary SPA/ Ramsar only. The other European sites can be screened out as they are either greater than 8km from the Central Lincolnshire boundary or greater than 8km from the nearest site allocation within the Local Plan.

Disturbance: urbanisation

5.3.20 Urbanisation is a general term used to cover a range of impacts that occur due to increases in human populations in close proximity to designated sites. The main impacts of urbanisation include: noise, vibration and light pollution, fly tipping of garden waste, vandalism, litter, increased risk of fire and cat predation. (Impacts from trampling, eutrophication (dog fouling) and habitat damage are covered under increased recreational pressure). Proximity to urban centres and high population pressure means these impacts are all exacerbated and as a result, particular management measures are often required.

5.3.21 Urbanisation effects tend to occur over short distances. Development buffers of around 400m are typically used to minimise the effects of urbanisation.²³ The three key factors to consider are species sensitivity, proximity of disturbance sources and timing/duration of the potentially disturbing activity. On a precautionary basis, it has been assumed that these impacts may have a significant impact on European sites where they take place within 1km of the European site boundary or known areas of important supporting habitat (i.e. functional land). Given no European sites are located within the Plan area, and no site allocations are located within 1km of a European site, no further consideration is given to

²¹ Fearnley, H., Liley, D. and Cruickshanks, K. (2012) Results of the recreational visitor surveys across the Humber Estuary. Footprint Ecology.

²² Panter, C. and Liley, D. (2016) Wash Visitor Survey. Footprint Ecology.

²³ For example, local planning authorities near the Thames Basin Heaths SPS have adopted a 400m zone around the SPA boundary where there is a presumption against new residential development.

urbanisation impacts. **Likely significant effects relating to urbanisations effects can be screened out.**

Changes in water quality and/or water levels

- 5.3.22 Impacts on water levels are most likely to affect European sites that are hydrologically connected to potential site allocations, either via surface or groundwater pathways, and those with qualifying features that are wetland habitats or are species dependent on wetland habitats, or habitats sensitive to changes to the water table, as identified in the SIPs.
- 5.3.23 Both groundwater and surface levels can be affected by abstraction for public water supply and for industrial and agricultural uses. Development promoted through the Local Plan is likely to increase the demand for water abstraction and treatment, which could indirectly impact on European sites in the study area sensitive to water quantity changes. However, it is important to note that much of the water supply to water-resource sensitive European sites is managed through specific consenting regimes that are independent of the Local Plan. These consenting regimes are subject to HRA, and water companies are required to prepare Water Resource Management plans (WRMPs) that take into account population growth and protected sites when considering future water resource provision.
- 5.3.24 Water dependent European sites are classified as protected under the Water Framework Directive; each protected site has specific objectives to ensure their favourable conservation status. Many European sites are dependent upon there being appropriate water quality to support their integrity, including water courses and other wetland habitats, as well as habitat types such as heathlands, which may be dependent on ground water quality. Water quality can be affected by a number of factors, such as pollution, pesticides and nutrient enrichment and discharges from water treatment works. The most likely impact pathways relating to water quality from increased development within Central Lincolnshire are pollution from surface water runoff and discharge water treatment works.
- 5.3.25 An adverse effect on the integrity of a European site from hydrological changes was assumed to be likely only where the qualifying features of that site are sensitive to hydrological changes.

Sites identified as vulnerable/sensitive to this effect	Further assessment required?	Comments
The Wash SPA/ Ramsar	Yes	<p>Qualifying features sensitive to hydrological changes, including water abstraction and changes to water quality.</p> <p>The Wash is fed by the rivers Witham, Welland and Great Ouse.</p> <p>Potential for possible impacts from hydrological changes via the River Witham and tributaries.</p> <p>European site located at too great a distance to be impacted by issues of surface water runoff from increased development in Central Lincolnshire boundary.</p>

<p>The Wash and North Norfolk Coast SAC</p>	<p>Yes</p>	<p>Qualifying features sensitive to hydrological changes, including water abstraction and changes to water quality.</p> <p>The Wash is fed by the rivers Witham, Welland and Great Ouse.</p> <p>Potential for possible impacts from hydrological changes via the River Witham and tributaries.</p> <p>European site located at too great a distance to be impacted by issues of surface water runoff from increased development in Central Lincolnshire boundary.</p>
<p>Humber Estuary SAC</p>	<p>Yes</p>	<p>Qualifying features sensitive to hydrological changes, including water abstraction and changes to water quality.</p> <p>The Humber is a tidal estuary, fed by the rivers Trent, Ouse and Hull.</p> <p>Potential for possible impacts from hydrological changes via the River Trent.</p> <p>European site located at too great a distance to be impacted by issues of surface water runoff from increased development in Central Lincolnshire boundary.</p>
<p>Humber Estuary SPA/ Ramsar</p>	<p>Yes</p>	<p>Qualifying features sensitive to hydrological changes, including water abstraction and changes to water quality.</p> <p>The Humber is a tidal estuary, fed by the rivers Trent, Ouse and Hull.</p> <p>Potential for possible impacts from hydrological changes via the River Trent.</p> <p>European site located at too great a distance to be impacted by issues of surface water runoff from increased development in Central Lincolnshire boundary.</p>
<p>Thorne Moor SAC</p>	<p>No</p>	<p>There is no hydrological link/impact pathway between this site and Central Lincolnshire.</p>
<p>Hatfield Moor SAC</p>	<p>No</p>	<p>There is no hydrological link/impact pathway between this site and Central Lincolnshire.</p>
<p>Thorne & Hatfield Moors SPA</p>	<p>No</p>	<p>There is no hydrological link/impact pathway between this site and Central Lincolnshire.</p>

5.3.26 Therefore the likely significant effects of hydrological changes or water quality needs to be considered in relation to the Wash SPA/ Ramsar, the Wash and North Norfolk SAC, the Humber Estuary SAC, and the Humber Estuary SPA/ Ramsar.

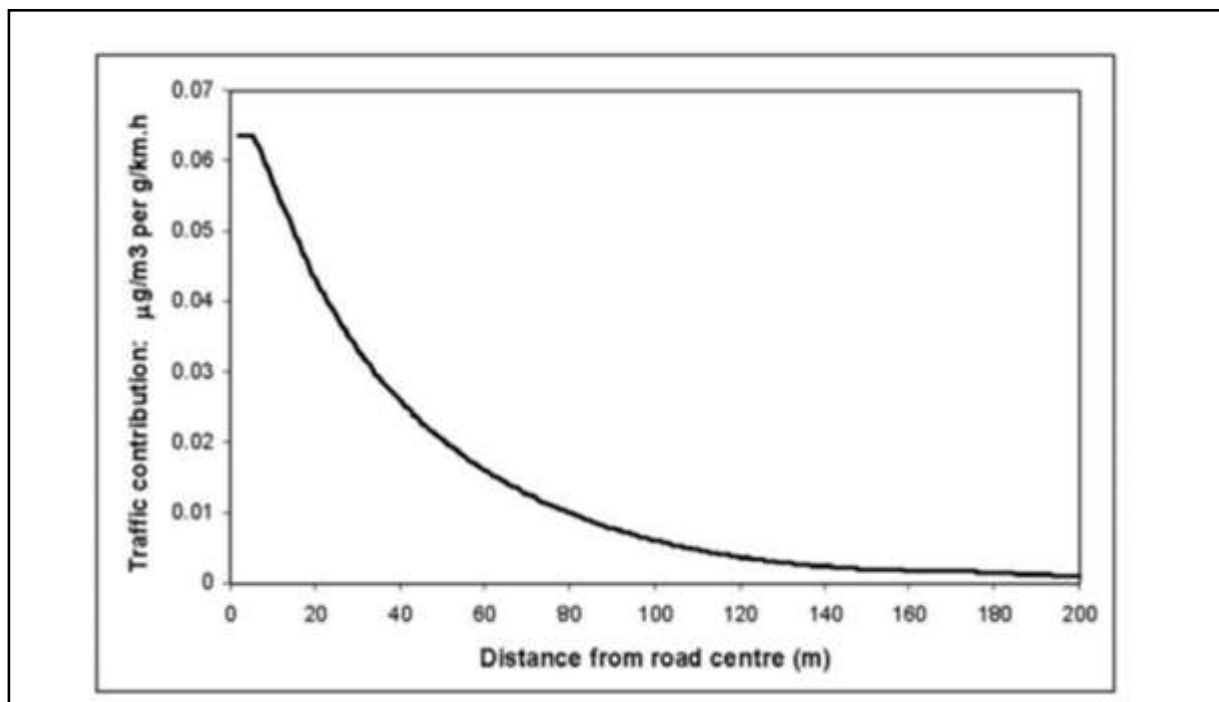
Air Quality

- 5.3.27 The development proposed in the Local Plan is likely to generate an increase in traffic which may lead to an increase in levels of air pollution relative to no growth. Many habitats of nature conservation importance in the UK are adapted to low nutrient conditions and/or are vulnerable to acidification, and are sensitive to dust and particulate matter (PM), nitrogen oxides (NO_x), sulphur dioxide (SO₂) and ammonia (NH₃), as well as to nitrogen deposition and acid deposition. Pollutants come from a range of different sources, but transport is known to be the single largest source of NO_x emissions and particulate matter.
- 5.3.28 Air pollution is most likely to affect European sites where plant, soil and water habitats are qualifying features. The risks to qualifying features from air pollution arise from the direct effects which arise when a pollutant which is dispersed in the air is taken up by vegetation, and indirect effects which arise when the pollutant settles into the ground causing nutrient enrichment of the soil or change to the soil PH.²⁴
- 5.3.29 Natural England's advice on the assessment of air quality impacts under the Habitats Regulations states that consideration should be given to the risk of road traffic emissions likely to result from a Local Plan. The main issue for Local Plans is the assessment of 'in-combination' effects due to air quality changes that might be associated with the quantum of development proposed, particularly in relation to traffic and nitrogen deposition.
- 5.3.30 Natural England (2016)²⁵ review of the ecological impacts of road traffic concluded that vegetation was impacted by exposure to motor vehicle pollution up to 200m from roads and that distance has the potential to be greater. They also found that impacts are greatest within the first 50 -100m from roads.
- 5.3.31 According to 'The Highways Agency Design Manual for Roads and Bridges, Section 3, Part 1'5, in terms of nitrogen deposition from traffic emissions, only increases in heavy duty vehicle (HDV) flows that will change by 200 Annual Average Daily Traffic (AADT) or more are considered significant. Additionally, it is widely accepted that air pollution from roads is unlikely to be significant beyond 200m from the road itself (see **Figure 5.1**). In most cases, only traffic on major roads (e.g. 'A' roads) is considered sufficient to affect air quality at a level significant to habitats. 200m is therefore the distance that has been used in this HRA to determine whether a European site is likely to be significantly affected by the Local Plan in terms of reduced air quality from atmospheric pollution. Where a site is within 200m of only minor roads, no significant effect from traffic-related air pollution is considered to be the likely outcome.

²⁴ Natural England (2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001). Available at:
<http://publications.naturalengland.org.uk/publication/4720542048845824>

²⁵ <http://publications.naturalengland.org.uk/publication/6212190873845760>

Figure 5.1: Traffic Contribution to Pollutant Concentration at Different Distances from the Road Centre (DFT)²⁶



Sites identified as vulnerable/sensitive to this effect	Further assessment required?	Comments
The Wash SPA/ Ramsar	No	Beyond 200m from the nearest A road. The site will therefore not be exposed to potentially significant air quality changes associated with increased traffic originating from Central Lincolnshire, alone or in combination with other plans or projects.
The Wash and North Norfolk Coast SAC	No	The A149 is within 200m of the SAC at Blakeney and at locations to the east of Blakeney. However, the Central Lincolnshire boundary is over 80km, as the crow flies, from Blakeney. Due to this distance, the site will therefore not be exposed to potentially significant air quality changes associated with increased traffic originating from Central Lincolnshire, alone or in combination with other plans or projects.
Humber Estuary SAC	Yes	There are a number of A roads within 200m of the SAC including: M62, A18, A161, A1077, A63 and A180. According to the SIP, the following qualifying features are sensitive to changes in air quality and at risk of being affected by increases in Nitrogen levels:

²⁶ <http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf>

		<ul style="list-style-type: none"> • H1310 Glasswort and other annuals colonising mud and sand • H1330 Atlantic salt meadows • H2110 Shifting dunes • H2120 Shifting dunes with marram • H2130 Dune grassland • H2160 Dunes with sea-buckthorn
Humber Estuary SPA/ Ramsar	Yes	<p>There are a number of A roads within 200m of the SPA including: M62, A161, A63 and A180.</p> <p>According to the supplementary advice for the site, the structure and function of habitats which support the qualifying features of the SPA may be sensitive to changes in air quality, affecting the quality and availability of nesting, feeding or roosting habitats. Such features include:</p> <ul style="list-style-type: none"> • Bittern • Shelduck • Marsh harrier • Hen harrier • Avocet • Golden plover • Knot • Dunlin • Ruff • Bar-tailed godwit • Redshank • Little tern • Waterbird assemblage
Thorne Moor SAC	No	Beyond 200m from the nearest A road. The site will therefore not be exposed to potentially significant air quality changes associated with increased traffic originating from Central Lincolnshire, alone or in combination with other plans or projects.
Hatfield Moor SAC	No	Beyond 200m from the nearest A road. The site will therefore not be exposed to potentially significant air quality changes associated with increased traffic originating from Central Lincolnshire, alone or in combination with other plans or projects.
Thorne & Hatfield Moors SPA	No	Beyond 200m from the nearest A road. The site will therefore not be exposed to potentially significant air quality changes associated with increased traffic originating from Central Lincolnshire, alone or in combination with other plans or projects.

5.3.32 Therefore the likely significant effects of changes in air quality need to be considered in relation to the Humber Estuary SAC and the Humber Estuary SPA/ Ramsar.

In-combination effects

5.3.33 As well as considering whether the Local Plan policies alone may result in likely significant effects, a key requirement of the Regulations is to determine whether the Local Plan is likely to have a significant effect when considered in-combination with other plans and projects. For example, the effect of a plan on air quality may be insignificant when considered alone, but when combined with the effects of increased air pollution from other plans, may lead to significant impacts on site integrity. Regulation 105 of the Regulations requires an appropriate assessment of “any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or project.”

5.3.34 This HRA has taken a pragmatic approach to considering plans and projects in-combination; focusing on in-combination effects within the plan, i.e. separate policies or site allocations affecting the same European Site(s), and in-combination impacts with Local Plans that direct spatial development within and adjacent to the Central Lincolnshire area. **Appendix 3** lists the plans and projects that will be taken into account.

Summary of Screening Assumptions

5.3.35 Based on the screening assumptions established above, **Table 5.4** below sets out a summary of the European sites and potential effects resulting from the Local Plan screened into the Stage 1 Screening Assessment. Those sites and impact pathways ‘screened out’ have not been considered further in the screening matrices in **Appendix 2**.

Table 5.4: Summary of Screening Assumptions for the Central Lincolnshire Local Plan

‘Screened in’ – green ‘Screened out’ – orange

European Site	Loss/fragmentation of habitat	Disturbance: recreation and visitor pressure	Disturbance: urbanisation	Hydrological change	Air Quality
The Wash SPA (Norfolk)	Screened out	Screened out	Screened out	Screened in	Screened out
The Wash and North Norfolk Coast SAC (Norfolk)	Screened out	Screened out	Screened out	Screened in	Screened out
Humber Estuary SPA/ Ramsar (North Lincolnshire/Lincolnshire)	Screened in	Screened in	Screened out	Screened in	Screened in
Humber Estuary SAC (North Lincolnshire/Lincolnshire)	Screened out	Screened in	Screened out	Screened in	Screened in
Hatfield Moor SAC (Doncaster)	Screened out	Screened out	Screened out	Screened out	Screened out
Thorne Moor SAC (Doncaster)	Screened out	Screened out	Screened out	Screened out	Screened out

Thorne and Hatfield Moors SPA (Doncaster)					
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Summary of Screening Distances

5.3.36 The following table summarises the screening distances that will be used as a guide for each impact pathway described above. They are for guidance purposes only and do not imply that all sites within these distances will result in a likely significant effect on a European site.

Table 5.5: Impact Pathway Screening Distances

Impact Pathway	Screening Distance	Rationale
Loss/ fragmentation of habitat	No set distance – use Natural England’s SSSI Impact Risk Zones and Indicative Functional Land Maps where available	Agreed approach with Natural England
Disturbance: increased recreational and/or visitor pressure	8km	Agreed approach with Natural England
Disturbance: urbanisation effects (indirect disturbance from noise, vibration and/or light pollution)	None – impact pathway screened out	
Hydrological changes	No standard distance	Use source/pathway/receptor model
Air Quality – vehicle exhaust emissions	200m from European site	Highways Agency Guidance

5.4. Appropriate Assessment

5.5.1 Should it not be possible at Stage 1 Screening to conclude that there will be no likely significant effects on European sites as a result of the Local Plan, it will be necessary to undertake a Stage 2 Appropriate Assessment. **Table 5.6** below sets out the key steps of an appropriate assessment.

Table 5.6: HRA Stage 2 Appropriate Assessment Key Steps

Stage	Habitats Regulations Assessment
Stage 2 Appropriate Assessment	Task 1 - Explore the reasons for the European designation of screened in sites
	Task 2 - Explore the environmental conditions required to maintain the integrity of the European sites and trends in current environmental processes
	Task 3 - Gain an understanding of the Plan and its policies and consider each policy in context of the environmental processes
	Task 4 - Decide on any identified impacts and whether they would lead to an adverse effect on site integrity. Consider whether impacts are direct, indirect or cumulative
	Task 5 - Identify other plans or projects that might affect the European sites in combination with the Plan and decide whether there are any adverse effects that might not result from the Plan in isolation but will do so 'in-combination'
	Task 6 - Develop mitigation measures to avoid the effect entirely, or if not possible, to mitigate the impact sufficiently that the effect on the European site is rendered effectively inconsequential

5.5.2 The focus of the appropriate assessment, if required, will be on those impacts identified at the screening stage as likely to have a significant effect. The assessment would consider whether any of the identified impacts would lead to an adverse effect on the integrity of the qualifying features of the European site/s.

5.5.3 A site's integrity depends on it being able to sustain its 'qualifying features' (i.e. the features for which each site is significant) and to ensure their continued viability. Assessing effects on site integrity involves considering whether the predicted impacts of the Plan's policies (either alone or in-combination) have the potential to:

- Cause delays to the achievement of conservation objectives for the site;
- Interrupt progress towards the achievement of conservation objectives for the site;
- Disrupt those factors that help to maintain the favourable conditions of the site;
- Interfere with the balance, distribution and density of key species that are the indicators of favourable condition on the site;
- Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem;
- Change the dynamics of relationships that define the structure or function of the site (e.g. relationships between soil and water, or animals and plants);
- Interfere with anticipated natural changes to the site;
- Reduce the extent of key habitats or t/he population of key species;

- Reduce the diversity of the site;
- Result in disturbance that could affect the population, density or balance between key species;
- Result in fragmentation;
- Result in the loss of key features.

6 Stage 1 HRA Screening Assessment and Conclusions

6.1 Stage 1 Screening

- 6.1.1 A screening assessment has been undertaken to identify the likely significant effects of the policies and site allocations within the Consultation Draft Central Lincolnshire Local Plan on European sites. Screening matrices have been prepared to assess policies and site allocations individually and these are presented in **Appendix 2**. In accordance with the requirements of the Habitats Regulations, the in-combination effects of the policies together and with other plans, projects or programmes has been taken into consideration.
- 6.1.2 A summary of the results of the HRA Stage 1 Screening Assessment is provided below.

Significant Effects Unlikely

- 6.1.3 Significant effects on the integrity of European sites were assessed as unlikely for the majority of the general Local Plan policies, either because they would not result directly in development or they seek to protect, conserve or enhance the natural or historic environment, and/or positively steer development away from European sites. The screening assessment has resulted in the majority of policies, **79 in total**, being screened out from further HRA work (i.e. appropriate assessment). **Table 6.1** below summarises those aspects of the Local Plan that would not be likely to have a significant effect on a European site for the reasons given.

Significant Effects Likely

- 6.1.4 The screening assessment concluded that **4 policies** in the Local Plan were likely or uncertain to result in significant effects on a European site and has therefore been screened in for further assessment at Stage 2 Appropriate Assessment. These are summarised in **Table 6.2** below.
- 6.1.5 Additionally, **7 site allocations** were considered likely or uncertain to result in significant effects and have been screened in for further consideration:
- WL/CAI/001 Land to the South of North Kelsey Road
 - WL/CAI/002 Land at Sunnyside, west of Tennyson Close, Caistor
 - WL/CAI/008 Land adjacent and to the rear of Roman Ridge on Brigg Road
 - WL/CAI/00 Land North of North Street
 - WL/KEE/003 Land at Church Lane, Keelby
 - WL/SCO/011 North Moor Road
 - WL/BLYT/006 Land to south of Rowan Drive
- 6.1.6 The results of the screening identified that the following European sites are potentially adversely affected by impacts arising from the Local Plan, either alone or in combination:
- The Wash SPA/ Ramsar
 - The Wash and North Norfolk Coast SAC
 - Humber Estuary SPA/ Ramsar
 - Humber Estuary SAC
- 6.1.7 The potential impacts arising as a result of these site allocations are:
- Loss/ fragmentation of habitat and effects on species away from the European site
 - Disturbance: recreation and visitor pressure
 - Hydrological changes
 - Atmospheric pollution

6.1.8 Therefore, a Stage 2 Appropriate Assessment is required to assess in more detail the likely significant effects on the integrity of these four European sites. This will be prepared to support the Publication version of the Central Lincolnshire Local Plan.

Table 6.1: Local Plan policies ‘Screened Out’ from further HRA appraisal

Aspects of the plan which would not be likely to have a significant effect on a European Site alone	Relevant Parts of the Local Plan
General Policy Statement	<ul style="list-style-type: none"> • Vision • Objectives • Policy S1: The Spatial Strategy and Settlement Hierarchy • Policy S8: Decentralised Energy Networks and Combined Heat and Power • Policy S9: Supporting a Circular Economy • Policy S15: Wider Energy Infrastructure • Policy S18: Fossil Fuel Exploration, Extraction, Production or Energy Generation • Policy S44: Strategic Infrastructure Requirements • Policy S51: Lincoln’s Universities and Colleges
Policies that would have no effect because no development could occur through the policy itself	<ul style="list-style-type: none"> • Policy S45: Safeguarded Land for Future Key Infrastructure
Policies that intend to protect, conserve or enhance the natural (including biodiversity), built or historic environment	<ul style="list-style-type: none"> • Policy S11: Water Efficiency and Sustainable Water Management Policy • S20: Flood Risk and Water Resources • Policy S50: Creation of New Open Space, Sports and Leisure Facilities • Policy S55: Development on Land Affected by Contamination • Policy S56: The Historic Environment • Policy S57: Protecting Lincoln, Gainsborough and Sleaford’s Setting and Character • Policy S58: Green Infrastructure Network • Policy S59: Protecting Biodiversity and Geodiversity • Policy S60: Biodiversity Opportunity and Delivering Measurable Net Gains • Policy S61: Area of Outstanding Natural Beauty and Areas of Great Landscape Value • Policy S62: Green Wedges • Policy S63: Local Green Space • Policy S64: Important Open Space

Aspects of the plan which would not be likely to have a significant effect on a European Site alone	Relevant Parts of the Local Plan
	<ul style="list-style-type: none"> • Policy S65: Trees, Woodland and Hedgerows
<p>Qualitative or criteria based policies that will not themselves lead to development or other change</p>	<ul style="list-style-type: none"> • Policy S6: Reducing Energy Consumption - Residential Development • Policy S7: Reducing Energy Consumption – Non-Residential Buildings • Policy S10: Embodied Carbon • Policy S12: Reducing Energy Consumption in Existing Buildings • Policy S16: Carbon Sinks • Policy S14: Protecting Renewable Energy Infrastructure • Policy NS17: Electric Vehicle Charging • Policy S19: Resilient and Adaptable Design • Policy NS21: Affordable Housing • Policy S22: Meeting Accommodation Needs • Policy NS23: Custom and Self-Build Homes • Policy S24: Sub-Division and Multi-Occupation of Dwellings Within Lincoln • Policy S25: Houseboat Moorings and Caravans • Policy S26: Residential Annexes • Policy S28: Strategic Employment Sites (SESSs) • Policy S30: Important Established Employment Areas (IEEA) • Policy S31: Local Employment Areas (LEA) • Policy S32: Non-Designated Employment Proposals Within Identified Settlements • Policy S33: Non-Designated Employment Proposals in the Countryside • Policy S40: City and Town Centre Frontages • Policy S41: Sustainable Urban Tourism • Policy S42: Sustainable Rural Tourism • Policy S46: Accessibility and Transport • Policy S47: Walking and Cycling Infrastructure • Policy S48: Parking Provision • Policy S49: Community Facilities • Policy S52: Design and Amenity • Policy S53: Health and Wellbeing • Policy S54: Advertisements • Policy S66: Best and Most Versatile Agricultural Land

Aspects of the plan which would not be likely to have a significant effect on a European Site alone	Relevant Parts of the Local Plan
	<ul style="list-style-type: none"> • Policy S67: Sustainable Urban Extensions
<p>Policies that make provision for change or promote development but would have no likely significant effect on a European site, because there is no physical, ecological, hydrological, chemical or biological link or pathway between the changes the policy may cause and the site's qualifying interests of any European site</p>	<ul style="list-style-type: none"> • Policy S34: Network and Hierarchy of Centres • Policy S35: Lincoln's City Centre and Primary Shopping Area • Policy S36: Gainsborough Town Centre and Primary Shopping Area • Policy S37: Sleaford Town Centre and Primary Shopping Area • Policy S38: Market Rasen and Caistor Town Centres • Policy S39: District, Local and Village Centres • Policy S68: Lincoln SUEs • Policy S69: Gainsborough SUEs • Policy S70: Sleaford SUEs • Policy S83: Ministry of Defence Establishments
<p>Policies/proposals that make provision for change/promotes development in specific areas, but would have no significant effect on a European site, because the effects are trivial or 'de minimis'</p>	<ul style="list-style-type: none"> • Policy S3: Housing in Urban Areas • Policy S5: Development in the Countryside • Policy S43: Lincolnshire Showground • Policy S71: Lincoln Regeneration and Opportunity Areas • Policy S72: Gainsborough Riverside Opportunity Area • Policy S73: Sleaford Regeneration and Opportunity Areas • Policy S74: RAF Scampton
<p>Policies that promote development or change but where it is so general it is not known where, when or how the aspect of the Plan may be implemented or where the potential effects may occur, or which European sites, if any, may be affected</p>	<ul style="list-style-type: none"> • Policy S27: Spatial Strategy for Employment

Table 6.2: Summary of Stage 1 Screening of Local Plan Site Allocations

Aspects of the plan which are likely to have a significant effect on a European Site, either alone or in-combination	Relevant Parts of the Local Plan
<p>Policy/proposal/element of the Plan with potential to have a likely significant effect and therefore subject to further assessment,</p>	<ul style="list-style-type: none"> • Policy S2: Growth Levels and Distribution • Policy S4: Housing Development in or Adjacent to Villages • Policy S13: Renewable Energy

including consideration of potential mitigation measures.	<ul style="list-style-type: none">• Policy S29: Employment Allocations on Sustainable Urban Extensions (SUEs)
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