North Lincolnshire Local Plan Preferred Options and Site Allocations

Shadow Habitats Regulations Assessment

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Contract

This report describes work commissioned by Chris Barwell, on behalf of North Lincolnshire Council, by a letter dated 2nd March 2017. North Lincolnshire Council's representatives for the contract were Chris Barwell, Andrew Willerton and Kate Mills. Laura Thomas, Catherine Porter and Adam Jones of JBA Consulting carried out this work.

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Purpose

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Executive summary

North Lincolnshire Council is currently preparing a new Local Plan for the authority area. The Local Plan will set out the strategic priorities and detailed policies that will guide development in the area up to 2036. The development of the Local Plan is currently at the Preferred Options stage, which includes allocating sites for development.

To support the development of the Local Plan, North Lincolnshire Council is carrying out a Habitats Regulations Assessment (HRA) in line with requirements set out by the Conservation of Habitats and Species Regulations 2017 (as amended). The purpose of this is to ensure that appropriate consideration is given to the protection of international nature conservation sites (i.e. Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of government policy, also Ramsar sites) during the preparation of the Local Plan.

The first stage of the HRA process is the preparation of a Screening Assessment, which assesses whether the Local Plan is likely to have a significant effect on an international nature conservation site, either directly or indirectly, and/or in-combination with other plans and projects. If the Screening Assessment concludes that the Local Plan is likely to have a significant effect on the conservation objectives of an international nature conservation site, or that such an effect cannot be ruled out (adopting a precautionary approach), then a more-detailed Appropriate Assessment must be carried out.

Seven international nature conservation sites have been identified within North Lincolnshire and a 15km buffer around it. This includes the Humber Estuary SAC, SPA and Ramsar Site, Hatfield Moor SAC, Thorne Moor SAC, Thorne and Hatfield Moor SPA and the River Derwent SAC. In addition, sites identified/required as compensatory measures to offset adverse effects on international nature conservation sites from other schemes are given the same protection as the sites themselves and consequently, the managed realignment schemes at Chowder Ness and Alkborough will be considered as part of the Humber Estuary designated site.

Development for housing, business, infrastructure, services and recreational/tourism promoted as part of a Local Plan can potentially have adverse impacts on the habitats and species for which international nature conservation sites are designated. These impacts can be direct, such as habitat loss, fragmentation or degradation, or indirect such as disturbance or pollution from transportation. They can also include long-term effects associated with the operational phase of proposed developments or general population growth, and short-term effects arising from construction phases. A number of potential impact pathways have been identified as having the potential to significantly impact on the international nature conservation sites in and around North Lincolnshire, including:

- Recreational pressure
- Urbanisation
- Atmospheric pollution
- Water resource use and flow regulation
- Water pollution/siltation
- Flooding and water level management

Furthermore, a series of individually modest effects may in combination produce effects that are likely to have a significant effect on one or more international nature conservation sites. Consequently, a review of other plans and projects with the potential to result in significant effects on international nature conservation sites, in-combination with the North Lincolnshire Local Plan, has also been conducted as part of this appropriate assessment.

The first screening stage of the assessment is done as a two-stage process. The pre-screening stage undertakes a preliminary assessment of the nature of policies contained within the plan, and undertakes a high-level screening assessment of the site allocations and identifies whether or not they could give rise to a significant impact. This is based on the

nature of the policies, for example whether they just relate to general design principles or whether they are environmental protection options. The following screening stage considers each international nature conservation site and whether those policies and site allocations in the North Lincolnshire Local Plan, identified at the first stage could impact upon the site. A conclusion is then made as to whether the policies and site allocations, are likely to have significant effects alone or in-combination with other plans and projects.

The Screening Assessment determined that the Preferred Options and site allocations currently detailed in the North Lincolnshire Local Plan could potentially have significant effects, both alone and in-combination with other plans and projects, on the following sites:

- Humber Estuary SAC
- Hatfield Moor SAC
- Thorne Moor SAC
- Humber Estuary SPA
- Thorne and Hatfield Moors SPA
- Humber Estuary Ramsar Site

Therefore, an Appropriate Assessment was required to assess in more detail the likely nature of the effects on the integrity of these international nature conservation sites.

The assessment further determined, that due to its distance from the North Lincolnshire boundary, and it being situated upstream, the Local Plan is not likely to have significant effects, either alone or in-combination with other plans or projects, on the following international nature conservation site:

- River Derwent SAC

It should be noted that changes to early drafts of a plan, for example the removal of a policy with likely significant effects, are considered as pre-screening decisions. The HRA formal screening is undertaken prior to the adoption of the Plan. Therefore, any changes on earlier iterations of the draft plan are in effect changes to the essential features or characteristics of the plan itself and are therefore (usually) not considered to be avoidance measures requiring consideration at the Appropriate Assessment stage.

The Appropriate Assessment identified that the existing policies and provisions in the of the North Lincolnshire Local Plan Preferred Options and Site Allocations, in relation to recreational pressures, urbanisation, atmospheric pollution, water pollution/siltation and flood and water management will ensure that the Local Plan will have no adverse effects on the international nature conservation sites screened into the assessment.

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Abbreviations

AADT	Annual Average Daily Traffic
AAP	Area Action Plan
AONB	Area of Outstanding Natural Beauty
APIS	Air Pollution Information System
BASC	British Association for Shooting and Conservation
DCLG	Department for Communities and Local Government
DPD	Development Plan Document
DRMB	Design Manual for Roads and Bridges
HRA	Habitats Regulations Assessment
IROPI	Imperative Reasons of Overriding Public Interest
LNR	Local Nature Reserve
NPPF	The National Planning Policy Framework
NPPG	National Planning Practice Guidance
MSA	Mineral Safeguarding Area
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SHAJC	South Humber Area Joint Council
SIP	Site Improvement Plan
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Urban Drainage Systems
WRMP	Water Resources Management Plan

1 Introduction

1.1 Background

North Lincolnshire Council is preparing a new single Local Plan for North Lincolnshire. The Local Plan will set out the strategic priorities and detailed policies that will guide development in the area up to 2036. The development of the Local Plan is currently at the Preferred Options (Regulation 19) stage, which includes site allocations for development. Prior to this, an initial (Regulation 18) Consultation document was published (late February to mid-April 2017) in order to raise awareness of the Local Plan and this was followed by consultation on an Issues and Options (Regulation 18) Report in February and March 2018. The Issues and Options Report gathered evidence and drew together key issues in the council area and proposed a number of options on how Local Plan policies could be developed to address these issues to provide a long-term plan for how the area can be developed.

To support the development of the Local Plan, North Lincolnshire Council is carrying out a Habitats Regulations Assessment (HRA) in line with requirements set out by the Conservation of Habitats and Species Regulations 2017 (as amended). The purpose of this assessment is to ensure that appropriate consideration is given to the protection of international nature conservation sites (i.e. Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of Government Policy, also Ramsar sites) during the preparation of the Local Plan. The Issues and Options Report was accompanied by a HRA Screening Report which was issued for consultation in March 2018 (JBA Consulting, 2018).

The first stage of the HRA process is the preparation of a Screening Assessment, which assesses whether the Local Plan is likely to have a significant effect on an international nature conservation site, either directly or indirectly, and/or in-combination with other plans and projects. If the Screening Assessment concludes that the Local Plan is likely to have a significant effect on the conservation objectives of an international nature conservation site, or that such an effect cannot be ruled out (adopting a precautionary approach), then a more-detailed Appropriate Assessment must be carried out.

This report details the findings of the HRA Screening Assessment and Appropriate Assessment for the North Lincolnshire Local Plan Preferred Options and Site Allocations (North Lincolnshire Council, 2020).

1.2 North Lincolnshire Local Plan

The North Lincolnshire Development Plan comprises the Core Strategy (adopted in June 2011) together with 'saved' policies retained from the North Lincolnshire Local Plan (adopted May 2003) (North Lincolnshire Council, 2003), the Housing and Employment Land Allocations Development Plan Document (DPD) (North Lincolnshire Council, 2016a) adopted in March 2016, and the Lincolnshire Lakes Area Action Plan (AAP) adopted in May 2016 (North Lincolnshire Council, 2016b).

North Lincolnshire Council is now preparing a new single Local Plan for North Lincolnshire, covering the period 2017 to 2036, replacing the saved policies from the 2003 Local Plan, the Core Strategy DPD, the Housing and Employment Land Allocations DPD, and Lincolnshire Lakes AAP. The Council approved a new Local Development Scheme in April 2017 (currently under review), which sets out the plan documents that will be prepared and a timetable for their preparation.

The new single Local Plan will set out a clear vision and objectives for the future development of the area, addressing needs and opportunities in relation to housing, the economy, community facilities and infrastructure. It will also be a basis for securing the environment, adapting to climate change and securing good designs. Its policies and proposal will be used to guide decisions and investment on development and regeneration up to 2036.

1.3 Legislative Context

European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) was adopted in 1992 and provides legal protection to habitats and species of European importance. The principal aim of this directive is to maintain at, and where necessary restore to, the favourable conservation status of flora, fauna and habitats of European importance.

The Directive establishes the requirement for a European ecological network of protected sites by designating SACs for habitats listed on Annex I and for species listed on Annex II. These measures are also applied to SPAs classified under Article 4 of the Birds Directive. Together SACs and SPAs make up the Natura 2000 network. Government guidance also requires that Ramsar sites (which support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance [Ramsar Convention]) are included within a HRA. Together, SACs, SPAs and Ramsar sites are known as 'international nature conservation sites'.

The Directive is transposed into law in England and Wales through the Conservation of Habitats and Species Regulations 2017 (as amended), also known as the 'Habitats Regulations'. It is a requirement of Article 105 of the Habitats Regulations that where a plan is likely to have a significant effect on an international nature conservation site (or an offshore marine site), either alone or in-combination with other plans or projects, and where it is not directly connected with or necessary to the management of the site "*the plan-making authority for that plan must, before the plan is given effect, make an appropriate assessment of the implications for the site in view of that site's conservation objectives*".

Therefore, for all plans that are not wholly directly connected with, or necessary to, the conservation management of the site's qualifying features, a formal screening for any Likely Significant Effects (either alone or in-combination with other plans or projects) on an international nature conservation site(s) is required. This screening assessment is based on available ecological information on the designated site(s), other plans, projects and policies relevant to the area and details of the proposed development/policy.

If the screening assessment concludes that the plan is likely to have a significant effect on the conservation objectives of the site(s), or that such an effect cannot be ruled out (adopting a precautionary approach) an Appropriate Assessment must be carried out. An Appropriate Assessment involves an assessment of the potential effects of the plan on the conservation objectives of the site(s). If significant effects are identified, mitigation or avoidance measures can be applied.

If it cannot be concluded that the plan will not adversely impact upon the integrity of the site(s), the development will not be able to proceed without further conditions and/or assessment. The plan will need to prove that there are imperative reasons of overriding public interest (IROPI) that outweigh the potentially damaging impacts that the plan may have before it can proceed and in this case compensatory measures will be required.

Planning documents, such as the North Lincolnshire Local Plan, are required to undergo HRA if there is the potential for significant impacts and they are not directly connected with or necessary to the management of an international nature conservation site. As the Plan is not connected with or necessary to the management of international nature conservation sites, it is necessary to undertake a HRA of the Plan. The whole document, including the strategies, sub-points and supporting text have been considered as part of this HRA.

This report comprises a screening assessment and Appropriate Assessment of the North Lincolnshire Local Plan Preferred Options and Site Allocations and is based on an examination of information on the international nature conservation sites of relevance prepared by Natural England and the Joint Nature Conservation Committee (JNCC) as well as other readily accessible internet resources concerning the nature and wildlife value of the designated sites. It also takes account of recent caselaw (e.g. *People over Wind & Sweetman v Coillte Teoranta* Case C-323/17).

2 HRA Methodology

2.1 Introduction

It is accepted best-practice for the HRA of strategic planning documents to be run as an iterative process alongside the plan development, with the emerging policies, sites or options continually assessed for their possible effects on international nature conservation sites and modified or abandoned (as necessary) to ensure that the subsequently adopted plan is not likely to result in significant effects on any international nature conservation sites, either alone or 'in-combination' with other plans. This is undertaken in consultation with Natural England and other appropriate consultees.

2.2 HRA Process

The HRA will follow a four-stage process, based on that detailed in the Department for Communities and Local Government (DCLG) guidance *Planning for the Protection of European sites: Appropriate Assessment* (2006). These stages are described in Table 2-1.

Table 2-1: The HRA Process

Stage/Task	Description
HRA Stage 1: Screening	This process identifies the likely impacts upon an international nature conservation site of a project or plan, either alone or in-combination with other projects or plans, and determines whether these impacts are likely to be significant. If no likely significant effect is determined, the project or plan can proceed. If a likely significant effect is identified, task 2 is commenced. Following the recent People over Wind & Sweetman v Coillte Teoranta Case C-323/17, the assessment does not consider protective, avoidance or mitigation measures for stage 1 Screening. These measures are carried forward and considered as part of the stage 2. However, any changes to early drafts of a plan, for example the removal of a policy with likely significant effects, are considered as pre-screening decisions. The HRA formal screening is undertaken prior to the adoption of the Plan. Therefore, any changes on earlier iterations of the draft plan are in effect changes to the essential features or characteristics of the plan itself and are therefore (usually) not considered to be avoidance measures requiring consideration at Stage 2 (DTA, 2019).
HRA Stage 2: Appropriate Assessment	This assessment determines whether a project or plan would have an adverse impact on the integrity of an international nature conservation site, either alone or in-combination with other projects or plans. This assessment is confined to the effects on the internationally important habitats and species for which the site is designated (i.e. the qualifying interests of the site). Appropriate Assessments, in line with CJEU: Case C-461/17 Holohan v An Bord Pleanála, must also consider impacts upon habitats and species within or outside of a site boundary if they support a qualifying feature and could impact upon the conservation objectives of the site. If no adverse impact is determined, the project or plan can proceed. If an adverse impact is identified, Task 3 is commenced.
HRA Stage 3: Assessment where no alternatives and adverse impacts remain (Mitigation and Alternatives)	Where a plan or project has been found to have adverse impacts on the integrity of an international nature conservation site, potential avoidance/mitigation measures or alternative options should be identified. If suitable avoidance/mitigation or alternative options are identified, that result in there being no adverse effects from the project or plan on international nature conservation sites, the project or plan can proceed. If no suitable avoidance/mitigation or alternative options are identified, as a rule the project or plan should not proceed. However, in exceptional

Stage/Task	Description
	circumstances, if there is an 'imperative reason of overriding public interest' for the implementation of the project or plan, consideration can be given to proceeding in the absence of alternative solutions. In this case, compensatory measures must have to be put in place to offset negative impacts (stage 4).
HRA Stage 4: Compensatory measures	Stage 4 comprises an assessment of the compensatory measures where, in light of an assessment of imperative reasons of overriding public interest, it is deemed that the project should proceed.

Other guidance documents have been used to help inform the methodology of this assessment, including:

- 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 2002)
- The Habitats Regulations Assessment Handbook. DTA Publications (2019).
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (European Communities, 2018)
- Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC (European Communities, 2007)
- The National Planning Policy Framework (2019) (NPPF) and National Planning Practice Guidance (NPPG)
- The Planning Inspectorate PINS Note 05/ 2018: Consideration of avoidance and reduction measures in Habitats Regulations Assessment: People over Wind, Peter Sweetman, v Coillte Teoranta (The Planning Inspectorate, 2018).
- NEA001 Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Natural England, 2018).
- UK Government Guidance on the use of Habitats Regulations Assessment (July 2019) [https://www.gov.uk/guidance/appropriate-assessment]

2.3 HRA Stage 1: Screening Methodology

The principles of 'screening' are applied to a plan or its components (i.e. policies and site allocations) to allow the assessment stage to focus on those aspects that are most likely to have potentially significant effects on international nature conservation sites, as well as shape the emerging strategy. Screening aims to determine whether the plan will have any 'likely significant effects' on any international nature conservation site as a result of its implementation. It is intended to be a coarse filter for identifying effects (positive and negative) that may occur, to allow the assessment stage to focus on the most important aspects. A plan should be considered 'likely' to have an effect if it is not possible (on the basis of objective information) to exclude the likelihood that the plan could have significant effects on any international nature conservation site, either alone or in-combination with other plans or projects; an effect will be 'significant' if it could undermine the site's conservation objectives.

Screening can be used to 'screen-out' international nature conservation sites and plan components from further assessment, if it is possible to determine that significant effects are unlikely (e.g. if sites or interest features are clearly not vulnerable (exposed and / or sensitive) to the outcomes of a plan due to the absence of any reasonable impact pathways).

In order to complete the Screening Assessment of the Local Plan Preferred Options it is necessary to:

- Identify the international nature conservation sites within and outside the plan area likely to be affected, reasons for their designation and their conservation objectives.
- Describe the plan/strategy and its aims and objectives and also those of other projects or plans that in-combination have the potential to impact upon the international nature conservation sites.
- Identify the potential effects on the international nature conservation sites.
- Assess the significance of these potential effects on the international nature conservation sites

2.3.1 Precautionary Principle

The HRA process is underpinned by the precautionary principle, especially in the assessment of potential impacts and their resolution. If there is any uncertainty, and it is not possible, based on the information available, to confidently determine that there will be no significant effects on a site then the precautionary principle will be applied, and the plan will be subject to an Appropriate Assessment (HRA Stage 2).

2.3.2 Pre-screening decisions

It should be noted that, for plan level HRA, the early stages of checking and testing the plan through an iterative process, in light of the People over Wind Judgement, are documented as pre-screening decisions (DTA, 2019).

When the plan is to be published, a single formal screening decision is then taken, which excludes all mitigation measures to avoid or reduce impacts. Pre-screening changes to the plan in the early stages will then either become essential features or characteristics of the plan or will be considered as mitigation and carried forward to the Appropriate Assessment.

As noted in Table 2-1, the draft screening report includes pre-screening decisions as an early record of the checking and testing of the plan. For this draft report, these decisions are therefore referred to as pre-screening decisions.

2.4 HRA Stage 2 & 3: Appropriate Assessment and Assessment of Alternatives

For those international nature conservation sites screened in to the HRA, it is necessary to undertake an Appropriate Assessment to explore the potential adverse effects on their integrity and develop measures to avoid these effects entirely, or if not possible, to mitigate the impacts sufficiently that effects on the international nature conservation sites are rendered effectively insignificant.

The stages involved in the Appropriate Assessment are to:

- Explore the reasons for the designation of the "screened in" international nature conservation sites
- Explore the environmental conditions required to maintain the integrity of the "scoped in" international nature conservation sites and become familiar with the current trends in these environmental processes
- Gain a full understanding of the Preferred Options and consider each within the context of the environmental processes – would the policies lead to an impact on any identified process?
- Decide whether the identified impact will lead to an adverse effect on the integrity of the international nature conservation site
- Identify other plans that might affect these international nature conservation sites in-combination with the Preferred Options and decide whether there are any adverse effects that might not result from the strategy in isolation will do so in-combination.

- Develop measures to avoid the effect entirely, or if not possible, to mitigate the impact sufficiently such that its effect on the international nature conservation site is rendered effectively insignificant.

In evaluating significance, JBA Consulting relies on its professional judgement, which will be further reinforced through consultation with Natural England, through the development of the Preferred Options, Site Allocations and their associated appraisal processes.

2.5 Consultation

It is a requirement of the Habitat Regulations to consult the appropriate nature conservation statutory body (i.e. Natural England).

The North Lincolnshire Local Plan Issues and Options Report and its HRA Screening has been subject to consultation with all statutory consultees and the general public. The comments received with regards to the Issues and Options HRA Screening Report will be addressed within this Preferred Options and Site Allocations HRA.

3 International Nature Conservation Sites

3.1 Introduction

International nature conservation sites are often collectively known as Natura 2000 sites. Natura 2000 is an EU-wide network of nature protection areas established under the Habitats Directive. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened habitats and species.

Natura 2000 consists of:

- *Special Areas of Conservation (SACs)* - these are designated under the UK Regulations made under the Habitats Directive to protect those habitat types and species that are considered to be most in need of conservation at a European level (excluding birds).
- *Special Protection Areas (SPAs)* - these are designated under the UK Regulations under the Birds Directive to protect rare and vulnerable birds, and also regularly occurring migratory species.
- *Ramsar sites* - these are wetlands of international importance designated under the Ramsar Convention.

Although not included in the European legislation, as a matter of policy, Ramsar sites in England and Wales are protected as international nature conservation sites. The vast majority are also classified as SPAs and Sites of Special Scientific Interest (SSSIs). All SPAs and terrestrial SACs in England and Wales are also designated as SSSIs under the Wildlife and Countryside Act (1981) as amended.

3.2 International Nature Conservation Sites in and around North Lincolnshire

Best practice guidance suggests that sites occurring within the plan area, along with a wider area of approximately 10km to 15km from the boundary of the area directly affected by a plan, should be identified and assessed as part of the HRA screening process. However, it is important to consider the possibility of impacts for any international nature conservation site which might be affected, whatever their location, given the activities included in the plan and their range of influence. This may extend some distance from the area within the immediate influence of a plan.

For assessment of the North Lincolnshire Local Plan, a 15km buffer has been applied[1]. Seven international nature conservation sites have been identified within the plan area and the 15km buffer. No sites beyond this 15km buffer are deemed relevant to the HRA as it is considered that no pathways, including hydrological connections, exist that would impact upon any international nature conservation sites beyond this extent.

The seven sites identified are summarised in Table 3-1 below and shown on Figure 3-1. It should be noted that several of these designations are overlapping and relate to the same geographical area, although there are some differences in site extent and boundaries.

Table 3-1: International Nature Conservation Sites Summary

Site	Designation	Distance to Plan Area
Humber Estuary	SAC	Within plan area
	SPA	Within plan area
	Ramsar	Within plan area
Hatfield Moor	SAC	0km to west (directly abuts plan area)
Thorne Moor	SAC	Within plan area

[1]Analysis of HRAs conducted in England by Therivel (2009) showed that the average buffer distance applied in relation to Local Plans is 15km.

Site	Designation	Distance to Plan Area
Thorne and Hatfield Moor	SPA	Within plan area
River Derwent	SAC	14.4km to north-west

In addition to the sites identified in Table 3-1, paragraph 118 of the National Planning Policy Framework (NPPF) states that sites identified, or required, as compensatory measures for adverse effects on international nature conservation sites, potential SPAs, possible SACs, and list of proposed Ramsar sites should be given the same protection as international nature conservation sites. Consequently, the managed realignment schemes alongside the Humber Estuary at Chowder Ness and Alkborough (see Figure 3-1) will be considered as part of the Humber Estuary designated site.

Table 3-2 below provides further details on each of the international nature conservation sites identified in Table 3-1. This includes information on qualifying features, conservation objectives and site vulnerabilities. Data on the international nature conservation site interest features, their distribution, and their sensitivity to potential effects associated with the plan were obtained from various sources and reports, including the JNCC and Natural England websites (citations, boundaries, management plans, site improvement plans etc.) (Natural England 2014a-i; JNCC 2017a-d; JNCC 2016a-e; JNCC 2008).

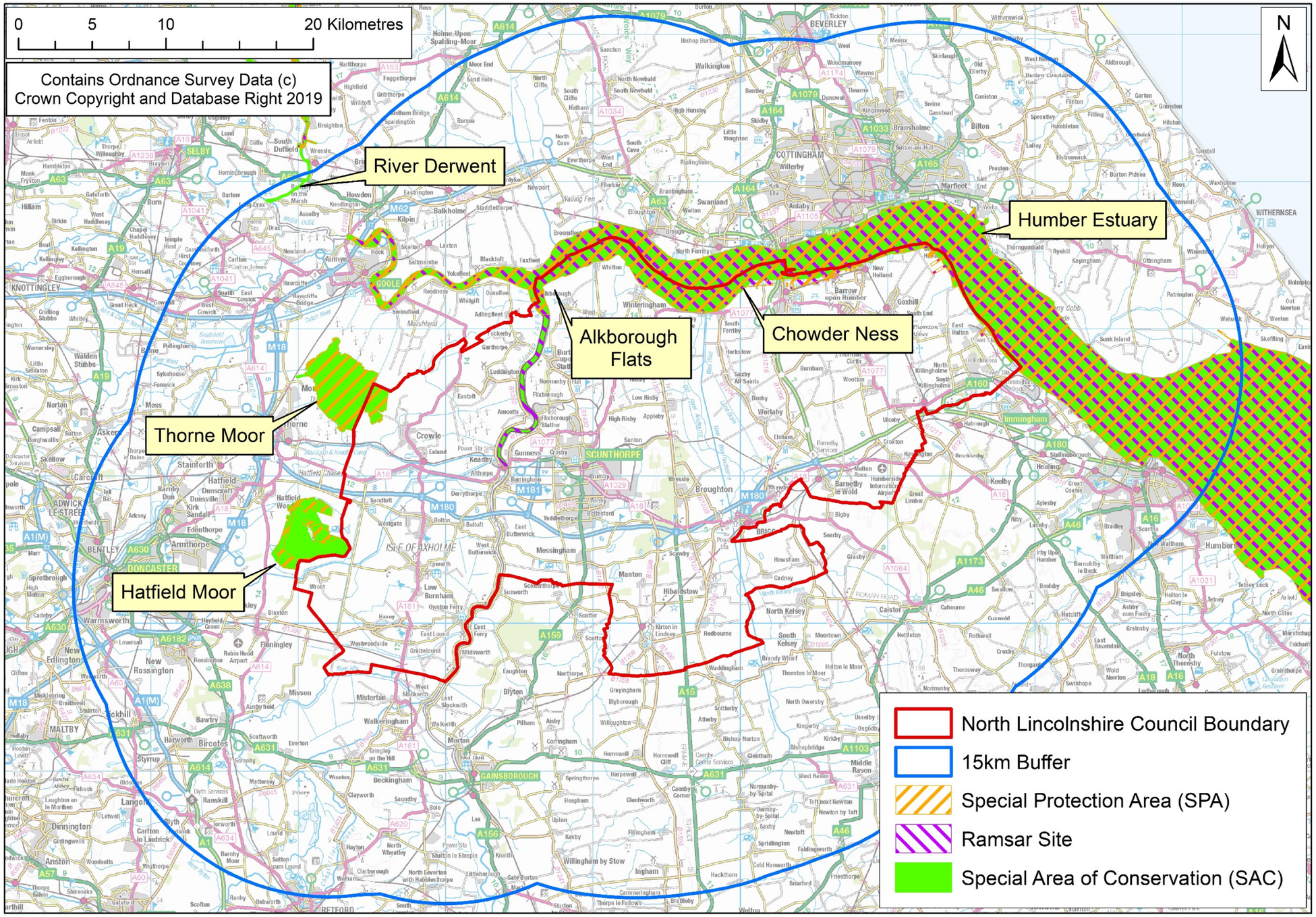

Figure 3-1: International nature conservation sites relevant to the HRA for the North Lincolnshire Local Plan

Table 3-2: International nature conservation sites, qualifying features, conservation objectives and site vulnerability

Site	Qualifying Feature (Broad Habitat/Species Groupings)	Qualifying Features	Conservation Objectives	Site Vulnerability
Humber Estuary SAC	Coastal habitats Coastal habitats (sensitive to abstraction) Estuarine and intertidal habitats Submerged marine habitats Anadromous fish Marine Mammals	Sandbanks which are slightly covered by sea water all the time [1110] Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] Coastal lagoons [1150] (Priority Habitat) *Salicornia* and other annuals colonizing mud and sand [1310] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] Embryonic shifting dunes [2110] Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") [2120] Fixed coastal dunes with herbaceous vegetation ("grey dunes") [2130] (Priority Habitat) Dunes with *Hippopha rhamnoides* [2160] Grey Seal *Halichoerus grypus* [1364] River Lamprey *Lampetra fluviatilis* [1099] Sea Lamprey *Petromyzon marinus* [1095]	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 - 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 habitats of qualifying species rely - The populations of qualifying species, and, - The distribution of qualifying species within the site.	Human induced changes in hydraulic conditions Changes in abiotic conditions Pollution to groundwater (point sources and diffuse sources) Industrial or commercial areas Abiotic (slow) natural processes
Hatfield Moor SAC	Bogs and wet habitats (sensitive to acidification)	Degraded raised bogs still capable of natural regeneration [7120]	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 habitat - The structure and function (including typical species) of the qualifying natural habitat, and, - The supporting processes on which the qualifying natural habitat rely	Human induced changes in hydraulic conditions (i.e. drainage) Air pollution, air-borne pollutants (i.e. atmospheric nitrogen deposition) Biocenotic evolution, succession Invasive non-native species Other human intrusions and disturbances (e.g. public access/disturbance, cumulative impacts from development) Inappropriate scrub control
Thorne Moor SAC	Bogs and wet habitats (sensitive to acidification)	Degraded raised bogs still capable of natural regeneration [7120]	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 - The structure and function (including typical species) of qualifying natural habitats, and - The supporting processes on which qualifying natural habitats rely	Human induced changes in hydraulic conditions (i.e. drainage) Air pollution, air-borne pollutants (i.e. atmospheric nitrogen deposition) Biocenotic evolution, succession Invasive non-native species Other human intrusions and disturbances (e.g. public access/disturbance, cumulative impacts from development) Inappropriate scrub control
River Derwent SAC	Riverine habitats and running waters Anadromous fish Non-migratory fish and invertebrates of rivers Mammals of riverine habitats	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260] River Lamprey - *Lampetra fluviatilis* [1099] Sea Lamprey *Petromyzon marinus* [1095] Bullhead *Cottus gobio* [1163] Otter *Lutra lutra* [1355]	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 - The structure and function (including typical species) of qualifying natural habitats - The structure and function of the habitats of qualifying species	Human induced changes in hydraulic conditions Invasive non-native species Modification of cultivation practices Pollution to groundwater (point sources and diffuse sources)

Site	Qualifying Feature (Broad Habitat/Species Groupings)	Qualifying Features	Conservation Objectives	Site Vulnerability
			- 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.	
Humber Estuary SPA	Birds of coastal habitats Birds of estuarine habitats	The site qualifies under article 4.1 of the Directive (79/409/EEC) 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: Avocet *Recurvirostra avosetta* (breeding and wintering) Bittern *Botaurus stellaris* (breeding and wintering) Hen Harrier *Circus cyaneus* (wintering) Golden Plover *Pluvialis apicaria* (wintering) Bar-tailed Godwit *Limosa lapponica* (wintering) Ruff *Philomachus pugnax* (passage) Marsh Harrier *Circus aeruginosus* (breeding) Little Tern *Sterna albifrons* (breeding) The site qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season: Shelduck *Tadorna tadorna* (wintering) Knot *Calidris canutus* (wintering and passage) Dunlin *Calidris alpina* (wintering) Black-tailed Godwit *Limosa limosa* (wintering and passage) Redshank *Tringa totanus* (wintering and passage) The site qualifies under article 4.2 of the Directive (79/409/EEC) as it is used regularly by over 20,000 waterbirds (waterbirds as defined by the Ramsar Convention) in any season: In the non-breeding season, the area regularly supports 153,934 individual waterbirds (five-year peak mean 1996/97 – 2000/01), including: Dark-bellied Brent goose *Branta bernicla bernicla*, Shelduck *Tadorna tadorna*, Wigeon *Anas penelope*, Teal *Anas crecca*, Mallard *Anas platyrhynchos*, Pochard *Aythya ferina*, Scaup *Aythya marila*, Goldeneye *Bucephala clangula*, Bittern *Botaurus stellaris*, Oystercatcher *Haematopus ostralegus*, Avocet *Recurvirostra avosetta*, Ringed Plover *Charadrius hiaticula*, Golden Plover *Pluvialis apricaria*, Grey Glover *P. squatarola*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *C. alba*, Dunlin *C. alpina*, Ruff *Philomachus pugnax*, Black-tailed Godwit *Limosa limosa*, Bar-tailed Godwit *L. lapponica*, Whimbrel *Numenius phaeopus*, Curlew *N. arquata*, Redshank *Tringa totanus*, Greenshank *T. nebularia* and Turnstone *Arenaria interpres*.	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 - 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.	Invasive non-native species Changes in abiotic conditions Changes in biotic conditions Abiotic (slow) natural processes Outdoor sports and leisure activities, recreational activities
Thorne and Hatfield Moors SPA	Birds of lowland heaths and brecks Birds of lowland freshwaters and their margins	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: Nightjar *Caprimulgus europaeus* (breeding) In addition, it is Natural England's view that the site would also meet SPA designation criteria in relation to Common Crane *Grus grus*, as the current level of use by this species (i.e. three breeding pairs) constitutes more than 1% of the UK population (Natural England, pers. comm). Whilst a formal re-designation of the site to include Common Crane as a qualifying feature has not been undertaken, this HRA will consider this species as a qualifying feature for the 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 - 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	Other urbanisation, industrial and similar activities Outdoor sports and leisure activities, recreational activities

Site	Qualifying Feature (Broad Habitat/Species Groupings)	Qualifying Features	Conservation Objectives	Site Vulnerability
			the site.	
Humber Estuary Ramsar Site	n/a	Ramsar Criterion 1 – a wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region - *The Humber Estuary qualifies as it is a representative example of a near-natural estuary with a range of component habitats, including dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes and coastal brackish/ saline lagoons*. Ramsar Criterion 3 – a wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region – *The Humber Estuary qualifies because it supports a breeding colony of Grey Seals (Halichoerus grypus) at Donna Nook, the second largest Grey Seal colony in England. The dune slacks at Saltfleetby-Theddlethorpe support the most north-easterly breeding site in GB of Natterjack Toad (Epidalea calamita).* Ramsar Criterion 5 – A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds – *The Humber Estuary qualifies as during the non-breeding season it has a peak count of 153,934 waterfowl (5-year peak mean 1996/97-2000/01).* Ramsar Criterion 6 – A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird – *The Humber Estuary qualifies as it contains populations of a number of species at levels of international importance, including:* *On passage:* *- Golden Plover (Pluvialis apricaria altifrons) NW Europe W Continental Europe NW Africa population (17,996 individuals, representing an average of 2.2% of the population, 5-year peak mean 1996 - 2000)* *- Red Knot (Calidris canutus islandica) (18,500 individuals, representing an average of 4.1% of the population, 5-year peak mean 1996-2000)* *- Dunlin (Calidris alpina alpina) Western Europe (non-breeding) population (20,269 individuals, representing an average of 1.5% of the population, 5-year peak mean 1996-2000)* *- Black-tailed Godwit (Limosa limosa islandica) (915 individuals, representing an average of 2.6% of the population, 5-year peak mean 1996-2000)* *- Common Redshank (Tringa totanus brittanica) (7,462 individuals, representing an average of 5.7% of the population, 5-year peak mean 1996-2000)* *Over winter:* *- Common Shelduck (Tadorna tadorna) North-western Europe (breeding) population (4,464 individuals, representing an average of 1.5% of the population, 5-year peak mean 1996/7-2000/1)* *- Golden Plover (Pluvialis apricaria altifrons) NW Europe, W Continental Europe, NW Africa population (30,709 individuals, representing an average of 3.8% of the population, 5-year peak mean 1996/7-2000/1)* *- Red Knot (Calidris canutus islandica) (28,165 individuals, representing an average of 6.3% of the population, 5-year peak mean 1996/7-2000/1)* *- Dunlin (Calidris alpina alpina) Western Europe (non-breeding) population (22,222 individuals, representing an average of 1.7% of the population, 5-year peak mean 1996/7-2000/1)* *- Black-tailed Godwit (Limosa limosa islandica) (1,113 individuals, representing an average of 3.2% of the population, 5-year peak mean 1996/7-2000/1)* *- Bar-tailed Godwit (Limosa lapponica lapponica) (2,752 individuals, representing an average of 2.3% of the population, 5-year peak mean 1996/7-*	None available.	Disturbance to vegetation through cutting / clearing Vegetation succession Water diversion for irrigation/domestic/industrial use Overfishing Pollution – domestic sewage Pollution – agricultural fertilisers Recreational/tourism disturbance (unspecified) Coastal squeeze causing loss of intertidal habitats and saltmarsh due to sea level rise and fixed defences.

Site	Qualifying Feature (Broad Habitat/Species Groupings)	Qualifying Features	Conservation Objectives	Site Vulnerability
		2000/1) *- Common Redshank (Tringa totanus brittanica) (4,632 individuals, representing an average of 3.6% of the population, 5-year peak mean 1996/7-2000/1)* Ramsar Criterion 8 – A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species – *The Humber Estuary qualifies because it acts as an important migration route for both river lamprey (Lampetra fluviatilis) and sea lamprey (Petromyzon marinus) between coastal waters and their spawning areas.*		

4 Potential Impacts and Pathways

4.1 Introduction

Development for housing, business, infrastructure, services and recreation/tourism promoted as part of a Local Plan can potentially have adverse impacts on the habitats and species for which international nature conservation sites are designated. These impacts can be direct such as habitat loss, fragmentation or degradation, or indirect such as disturbance or pollution from construction, transportation etc. They can also include long-term effects associated with the operational phase of proposed developments or general population growth, and short-term effects arising from construction phases.

This chapter identifies the potential impacts and their pathways to international nature conservation sites within and adjacent to North Lincolnshire which may arise as a result of the North Lincolnshire Local Plan Preferred Options and site allocations. It then goes on to identify the types of impact/pathway to which the qualifying features present upon the international nature conservation sites are particularly sensitive.

4.2 Potential Impacts and Pathways

The main potential pathways of impact likely to arise as a result of the Preferred Options and site allocations of the North Lincolnshire Local Plan are described below, with local context provided where possible.

4.2.1 Recreational Pressure

Housing development and population increases can result in additional recreational pressures on international nature conservation sites through activities such as walking, dog walking, jogging, cycling, horse riding, motorbike scrambling, boating and other water-based recreational activities. The impacts generated by recreational use in or around international nature conservation sites are usually accidental or incidental, but typically include:

- Physical damage, for example from trampling and erosion
- Disturbance to species, such as ground-nesting birds and wintering wildfowl, from walking, dog walking, cycling, and water sports, and also from increased traffic associated with these activities. This can result in increased mortality, reduced nesting success, and displacement.
- Air pollution (dealt with under section 4.2.3) from increased traffic

The impacts of recreational pressures are complex and depend on the specific species and habitat tolerance levels. For example, certain bird species are more sensitive to disturbance from dog walkers than others, and some habitats are more sensitive to trampling than others. In addition, some species can become habituated to some disturbance, such as noise, particularly if it is regular or continuous; it is often unpredictable disturbance that is most problematic. The level and locations of accessibility of the site to the public will also affect how recreational pressures impact upon it. In addition, where sites are close to urban areas and new developments, recreational pressures can be exacerbated by other damaging activities such as rubbish tipping, vandalism, arson, and predation, particularly by cats (see section 4.2.2).

The Thorne and Hatfield Moors SAC/SPA complex is accessible to the public and intersected by a network of paths and trails. Inevitably, visitors may stray off these paths (although not extensively owing to the wet conditions underfoot and remote nature of the site) and hence trample the peatland communities. The plant communities of peatland ecosystems are especially susceptible to trampling and are easily damaged at even low levels of disturbance. A shift in species composition follows, with a decrease in *Sphagnum*, liverworts and lichen cover and richness. Furthermore, trampling exposes the bare peat which is susceptible to erosion with impeded re-colonisation. For lichens, this is because growth is inhibited where thalli are broken. Whilst some species benefit from trampling (e.g. Common Sundew *Drosera rotundifolia*, Fen Bedstraw *Galium uliginosum* and Grass-of-Parnassus *Parnassia palustris*), this only occurs at low levels of disturbance such as those caused by deer (the wet depressions caused by ungulate

hooves for example create humid conditions which favour sundew species). Once trampling is initiated, the zone of impact widens as new areas of peatland become vulnerable to trampling (Pellerin *et al*., 2006). Nightjar and Common Crane populations are also vulnerable to disturbance for recreational activities.

The Humber Estuary SAC, SPA and Ramsar site is also susceptible to recreational disturbance, but in contrast to Thorne and Hatfield Moors, disturbance of avian fauna rather than botanical interest is most at risk here. Public access is available to most of the SPA boundary via footpaths and bridleways along the sea wall, access to beaches and saltmarsh, and compared to other estuarine SPA sites in England, the Humber has particularly large areas of intertidal habitat, most of which is well away from the footpath network. However, there is a relatively high level of sand in the substrate, at least in places, meaning that people can easily walk over the intertidal areas in some parts of the site (Ross and Liley, 2014). A recent survey by Fearnley *et al*. (2012) identified that 18.5% of visitors strayed from path onto mudflats/ beaches. Straying off the path (and associated noise disturbance) poses a threat to nests and young, increasing stress levels. Recreational disturbance has been reported to change bird behaviour and can be particularly detrimental over winter when bird numbers are higher, but resources are scarcer. This stress can force birds to leave a given designated site and ultimately can increase mortality (Le Corre *et al*. 2013). Whilst the estuary represents a complex system (making it difficult to pin-point causation), there is evidence to suggest that key designation features (e.g. Little Tern *Sternula albifrons* colonies) have declined locally due to recreational disturbance.

Whilst recreational activities are diverse on the Humber, it is thought that shore-based activities are most likely to cause disturbance (Cruickshanks *et al*., 2010). A recent survey identified the main recreational activity on the Humber as dog walking (Fearnley *et al*., 2012). Cruickshanks *et al.* (2010) highlight a range of recreational activities that are associated with the Humber Estuary, and summarise the impact of these and key locations, as described in Table 4-1.

Table 4-1: Recreational Activities Associated with the Humber Estuary (From: Cruickshanks *et al.*, 2010)

Recreational Activity	Description	Key Locations
Shore-based Activities		
Walking	A popular pursuit along much of the Humber banks, including general walking, dog walking and organised groups which make use of the trails around the estuary (e.g. Trans Pennine Trail, The Viking Way).	Takes place at all areas where there is access to the shore around the Humber with a focus on the larger settlements of Hull, Grimsby and Cleethorpes.
Horse riding	A popular activity around the Humber, focussed around long-distance trails (e.g. Heritage Ride) and beach riding.	The busiest areas for horse riding are Spurn Head, North Ferriby, Blacktoft Sands, Grimsby, Cleethorpes and Immingham and Saltfleet on the outer estuary.
Cycling	An informal activity on the Humber. Users make use of the Trans Pennine trail on the northern shore. Occurs more frequently in summer.	The busiest areas for cycling are Spurn Head, Hull and Hessle foreshore, Broomfleet, Barton-upon-Humber, Grimsby, Immingham and Cleethorpes.
Bird and seal watching	A popular activity on the Humber often resulting in large numbers of visitors to see rare birds and the seals at Donna Nook.	Spurn Point, Blacktoft, Tetney, Far Ings Nature Reserves, Welwick, Brough, Donna Nook, Saltfleetby, Killingholme and Easington are all popular locations for birding. Donna Nook is the focus for seal watching, supporting one of the largest grey seal breeding colonies in England. Other seal

Recreational Activity	Description	Key Locations
		watching sites include Easington and Cleethorpes.
Beach recreation	Beach recreation attracts large numbers of visitors in the summer.	This activity is focussed around Cleethorpes and along the Lincolnshire coast (e.g. Mablethorpe) and also at Spurn.
Wildfowling	Currently regulated by 13 associations, clubs and syndicates - all of whom are affiliated to British Association for Shooting and Conservation (BASC).	Licensed at around 27 locations on the estuary. The South Humber Area Joint Council (SHAJC) consists of representatives from eight clubs on the South Bank.
Motorised access	Motorised access and recreation has increased on the beaches and intertidal habitats with the use of quad bikes, four-wheel drive vehicles and motorbikes causing disturbance to birds.	The north bank wildfowling refuge has frequent issues with illegal motorised access. Other locations include South Ferriby, Barton, east of Barton, Blacktoft, Saltfleet, Easington and Welwick.
Samphire collection	Collection of samphire for personal use from the saltmarsh. There is some concern than commercial harvesting could increase the number of people in quieter areas of the SPA.	Occurs at Cleethorpes, Donna Nook, Tetney and Saltfleet on the south bank, and Spurn on the north bank.
Angling	Recreational angling (involving the use of rod and line) takes place around the estuary shore in restricted locations due to poor access. There are more than 20 angling clubs. Recreational fishing also occurs from boats on the Humber.	This occurs in restricted locations due to poor access, with a concentration of activity around the Humber Bridge. The busiest areas for angling are Spurn Head and Bight, Cherry Cobb Sands, Hull and Hessle foreshore to North Ferriby, Barton Cliff, Immingham, Pyewipe and Saltfleet.
Bait digging	Bait digging for recreational fishing purposes. Bait diggers mainly target lugworm (*Arenicola* sp.) and ragworm (*Nereis* sp.). There is some concern that bait digging is increasing.	Occurs around Cleethorpes on the south bank, and Spurn and Easington on the north shore.
Waterborne Activities		
Motor cruising & personal watercraft	This includes motor cruising, jet skiing, water skilling, canoeing and sea kayaking. The estuary is busier in the summer and the activities, particularly jet skiing, are difficult to regulate.	Motor cruising is mainly centred around the main marinas and slipways (for smaller craft) (e.g. Goole, Hull, Grimsby and Cleethorpes). Jet skiing takes place at Saltfleet and from the slipway at the Humber Bridge; water skiing takes place at Hessle; canoeing takes place at Grimsby and Cleethorpes Canoe Club at the mouth of the River Freshney; and sea kayaking is becoming increasingly popular at Kilnsea.
Yachting and sailing	Yachting is a popular recreational activity on the Humber. Activity peaks in the summer months.	Concentrated activity around Hull Marina, Brough, Goole, Winteringham, Ferriby, Barrow Haven, East Halton, Grimsby and Saltfleet.
Kite surfing	Kite flying and surfing on water and land using kite buggies is an increasing activity on the Humber.	There are currently two focal areas at Humberston Beach/Humberston Speed strip and Cleethorpes.
Airborne Activities		

Recreational Activity	Description	Key Locations
Air-borne recreation	Flying pleasure aircraft, microlights and paragliders is popular and increasing around the Humber.	Most activity is based around the 13 flying clubs and Humberside International Airport. The key areas for pleasure aircraft include Goxhill, Faxfleet to Brough Haven on the North Shore, Barton and Blacktoft Sands. Use of microlights in these areas is also reported, along with regular activity at Mablethorpe and Saltfleetby.

Overall, Cleethorpes, Donna Nook, Hessle and the tip of Spurn attract the highest numbers of visitors and from a review of visitor questionnaire data collected by Fearnley *et al*. (2012), 50% of visitors, on average, who arrived at their destination by foot lived within 0.95km of the site, and, on average, 50% of visitors who arrived at their destination by car lived within 8.4km of the site. Overall, Fearnley *et al*. (2012) concluded that 88% of visitors to the Humber Estuary were local residents, with the majority living within 4.42km of the site.

When comparing the impacts of recreational disturbance on the Humber Estuary in comparison to other estuarine sites across England, Ross and Liley (2014) highlight that the Humber has large areas of intertidal habitat, most of which are some distance from footpaths, but many of which have a high level of sand in the substrate allowing easy access for walkers into some parts of the site. The level of surrounding housing (indicating the number of people) is comparable to that of other estuarine SPAs, but the number of car parks (shown on standard Ordnance Survey maps) is relatively high per kilometre of estuary shoreline. Ross and Liley (2014) therefore conclude that these metrics indicate that the Humber Estuary is not likely to be as vulnerable to disturbance impacts as some other sites, or at least that some other estuary sites around England are considered to be under greater recreational pressure. Despite this, on a local scale there may be areas of the estuary that are more vulnerable to disturbance than others, for example where high tide roosts are located near to a car park. The large areas of exposed soft intertidal habitat mean that there are a range of options that birds have to feed and these are so far from the shore that redistribution may be easier (although displacement of birds for a significant period of time is likely to be a significant effect regardless so whether alternative habitat is available). Concern is therefore focused around particularly sensitive locations where birds may congregate, such as roost sites, and to some extent in the areas where access may be diffuse and spread out across important habitat to a level where there is significant habitat lost to the birds (Ross and Liley, 2014).

In relation to the River Derwent SAC, the Site Improvement Plan (Natural England, 2014h) does not identify recreational pressures, or other impacts potentially associated with it, as a key threat to this site.

An additional complication when trying to assess the impacts of recreational disturbance on international nature conservation sites is that most recreational activities are 'casual' and pursued opportunistically (e.g. walking, walking dogs, riding) which makes it difficult to quantify or predict the impacts, and harder to control or manage. It also means it is difficult to explore in detail all of the potential impacts of recreational pressures at the strategic level. However, it is possible for plans and strategies to influence recreational use of international nature conservation sites through the planning process, for example, by increasing the amount of green/open space and leisure/recreational facilities required within or near developments if potentially vulnerable international nature conservation sites are located nearby.

A further consideration is that the population of North Lincolnshire is currently just over 170,000 people, and is expected to grow by around 6% by 2039. By far the biggest increase in population is projected to take place in people of pensionable age (65+), with a projected increase of 55.4%, with 28.9% of the North Lincolnshire population projected to be aged over 65 by 2039 (North Lincolnshire Council, 2017). This is the section of the population with the

greatest amount of leisure time, potentially further increasing recreational pressures on international nature conservation sites.

This HRA will consider the potential for recreational pressures on an international nature conservation site by taking into consideration the vulnerability of their interest features to such pressures, the accessibility of the site to the public, the likely attractiveness of the site and its habitats/species to visitors, and the proximity of the site to proposed development sites.

4.2.2 Urbanisation

Urbanisation is a broad term that can act as a pathway to produce a number of often disparate impacts to international nature conservation sites. This can include:

- Habitat loss should the development occur within the boundaries of an international nature conservation site. Loss of supporting habitats, such as high tide roosts used by wetland birds that are not within the boundaries of the designated site but that provide important functional habitat linkages, can also be a significant impact.
- Physical damage, for example from trampling and erosion, and also activities such as fly-tipping, littering, vandalism, arson, and predation, particularly by cats.
- Habitat fragmentation, whereby new development results in the separation of available habitats or splits extensive areas of suitable habitat. It is most likely to impact upon species.
- Disturbance (noise and visual) associated with both the construction phase (e.g. from plant movements, machinery) and also the operational phase (e.g. from users of the development undertaking activities such as walking or water sports which generate disturbance as described in section 4.2.1). This typically affects sensitive species such as birds and mammals causing them to deviate from their normal preferred behaviour.
- Air pollution (dealt with under section 4.2.3) from increased traffic both during the construction and operational phases.

Recreational pressure, as discussed in section 4.2.1, is also frequently associated with urbanisation and often generates the greatest impacts, however, in contrast to other urbanisation impacts, it is less associated with proximity to development, and is consequently discussed separately in this report.

Given the link between proximity to development and urbanisation impacts impacting on international nature conservation sites, development buffers are often applied. Within these zones development (typically specified as housing development) should not be allocated due to the potential effects of urbanisation. These buffer zones are typically of around 500m, such as that used for the Thames Basin Heaths SPA.

Both the Humber Estuary and Thorne and Hatfield Moors have interest features which are susceptible to urbanisation. The Humber Estuary is noted for significant populations of wading birds which are vulnerable to predation associated with the influx of domesticated cats and other large predators found in urban areas. Likewise, Thorne and Hatfield Moors hold significant populations of breeding Nightjar *Caprimulgus europaeus*. There some evidence, however, to suggest that the reverse is true. The so called 'Predation Paradox' proposes that predation is reduced in urban areas owing to the surplus of anthropogenic food sources which provide an alternative food source to large predators. Furthermore, anthropogenic food supplies can benefit prey (Fischer *et al.,* 2012). More recent studies have revealed that this is not the case for all urban areas and that there are other variables at play depending on the nature of the urban area (Rivera-López & MacGregor-Fors, 2016).

The north shore of the Humber Estuary is slightly more populated than the south shore, when looking at property within 5km of the centre of the estuary. It should be noted, however, that relative to other estuaries, the Humber is more sparsely populated, so at present, urbanisation poses a lower threat (Cruickshanks *et al*., 2010). However, future development pursued under the North Lincolnshire Local Plan, and neighbouring plans, has the potential to exacerbate urbanisation pressures on international nature conservation sites. Therefore, this HRA will consider the potential for urbanisation pressures to be generated in relation to the international

nature conservation sites identified in section 3, taking into account the vulnerability of their interest features and the proximity of the site to proposed development sites.

Given its distance from North Lincolnshire itself, urbanisation is not considered to pose a threat to the River Derwent SAC, and Natural England (2014h) do not identify any direct threats to the site from urbanisation pathways in the Site Improvement Plan for the SAC. However, urbanisation could lead to indirect threats such as water pollution (see section Water Pollution/Siltation) and water abstraction (see section 4.2.4) which are identified by Natural England (2014h) as particular issues for this site.

This HRA will consider the potential for the range of disparate impacts that can arise as a result of urbanisation and affect an international nature conservation site, taking into account the vulnerability of the interest features to such pressures, and the proximity of the site to proposed development sites.

4.2.3 Atmospheric Pollution

A range of pollutants can have a negative effect on air quality. However, the most significant pollutants in relation to habitats and species (in particular plants) are:

- Sulphur dioxide (SO_2) which is typically generated from combustion of coal and heavy fuel oils. The energy industry was the primary source of this pollutant, however, as the use of coal for power generation has declined, so have levels of SO2.
- Nitrogen oxides (NO_x) which are mainly generated from vehicle emissions, with road transport being a key source. NOx emissions have decreased with increased fuel efficiency and catalytic converters.
- Ammonia (NH_3) which is primarily associated with agriculture, such as through the decomposition of manure and slurry.

The above pollutants primarily impact on habitats and species through acidification and eutrophication. Acidification increases the acidity of soils, which can directly affect some species, but can also lead to leaching of some important base chemicals, such as calcium. It can also result in the mobilisation and uptake of toxins by plants, such as metals including aluminium. Over recent years, due to improvements in vehicle technology and fuel efficiency, combined with declines in the use of coal for energy production, acidification levels in the UK have decreased, and are expected to continue to decrease in the future (Defra, 2016). Eutrophication increases the amounts of available Nitrogen (N) which is a particular problem in low-nutrient systems where available nitrogen is often a limiting factor to plant growth. Therefore, eutrophication can often result in the slow-growing, low-nutrient demanding species being out-competed by faster growing species that take advantage of the elevated levels of available Nitrogen. However, as with SO_2, technological improvements, such as the three-way catalytic converter, have resulted in a dramatic reduction in NO_x emissions from petrol-fuelled vehicles, although this decrease has been slowed in recent years with the increased number of higher NO_x emitting diesel vehicles on the road (Defra, 2016 & 2018). Determining trends in NH_3 emissions is difficult due to their typically diffuse sources, however, compared to other air quality pollutants there has been relatively little reduction in total emissions since the 1990s. Where slight reductions have been observed, this is largely due to a decrease in UK cattle numbers (the largest of the livestock emitters), where better farming practices have improved efficiencies (Defra, 2016 & 2018).

New developments progressed under the Local Plan, and an associated increase in population, have the potential to result in an increased use of the road network by vehicles which could have adverse effects on air quality. This could have subsequent effects on habitats sensitive to air quality changes and higher deposits of Nitrogen oxides, particulates and Sulphur Dioxide. For example, there is the potential for effects on the health of *Sphagnum* (which is critical to the ability of the degraded raised bog to re-establish actively growing peat within the site, such as on Thorne and Hatfield Moors).

It should be noted that the likelihood of this effect is greatly reduced as the distance increases between the deposit area (typically the road network) and the international nature conservation site. Pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at a distance of more than 200m (Highways Agency, 2009). One of North Lincolnshire's major strengths and opportunities is its high quality transport network, with easy access to the UK's motorway and trunk road network (i.e. M180, M181, A180, A160 link and A15), a well-connected rail network, Humberside airport, four inland ports (i.e. Flixborough Wharf, Grove Port, Gunness and Keadby) and close proximity to the South Humber Gateway ports at Grimsby, Immingham and Killingholme.

An additional consideration is that the vast majority of new vehicles on the road generally emit fewer emissions than older vehicles. This has become more apparent over the last 5 years as the car industry has responded to increasing climate change (carbon reduction) pressures. However, recent investigations have indicated that the published laboratory emissions data from manufacturers may not in fact reflect actual independent on-road emissions levels (AIR, 2017). Road tax bands were also amended by the Government in 2009 to ensure that the most polluting cars are penalised more heavily than previously. These measures have helped to increase the demand for cleaner more fuel-efficient vehicles; this trend will likely increase further in the future as cars continue to become even greener.

The Humber Estuary is vulnerable to atmospheric nitrogen deposition. On the Humber, coastal saltmarsh is particularly susceptible to the fertilising effects of this pollution whereby nitrogen deposits favour the growth of grasses over forbs. A shift towards later successional species is also apparent. Mature saltmarsh is most vulnerable because interspecific competition is greatest here. The effects of atmospheric nitrogen deposition are augmented by wildfowl, hence zones with high concentrations of winter-feeding geese and waders are at greatest risk of dry deposition of gaseous ammonia. Saltmarsh adjacent to power stations are also at a higher risk from dry gaseous nitrogen oxide. Finally, saltmarsh located in areas with elevated wet deposition of ammonium and nitrate are particularly vulnerable. The critical load of nitrogen deposition has been set at 20-30 kg N ha^{-1} $year^{-1}$ (Air Pollution Information System (APIS), 2016a).

Lowland raised bogs are also vulnerable to atmospheric nitrogen deposition, especially the deposition of ammonia. Ammonia increases the susceptibility of plants to stress (e.g. water stress). *Sphagnum* moss and lichens are particularly susceptible to bleaching following exposure. A shift in species composition is also likely, with an increase in algal growth over *Sphagnum*. Finally, ammonia deposition may lead to oxidation and erosion of peat to the detriment of the species it supports. Ammonia pollution is associated with agriculture. For example, where livestock, fertiliser or senescing vegetation are located nearby, ammonia may be released into the atmosphere. Wildlife can also contribute to atmospheric nitrogen pollution, especially populations of birds and seals in significant numbers within 1-3km. Lowland raised bogs are more susceptible to the effects of ammonia where the water levels are low. The critical load of ammonia deposition is 1 µg NH_3 m^{-3} annual mean for lichens and bryophytes and 3 µg NH_3 m^{-3} annual mean (uncertainty of 2-4 µg NH_3 m^{-3}) for higher plants (APIS, 2016b).

Natural England (2014h) does not identify atmospheric pollution as a particular risk to the River Derwent SAC in its Site Improvement Plan.

The UK Air Pollution Information System (APIS, 2019) provides detailed information on air pollution and its effects on habitats and species. Critical loads (i.e. the threshold level for the deposition of a pollutant above which harmful indirect effects can be shown on a habitat or species) have been developed on a site-specific basis, with each interest feature assessed for each site, as summarised in Table 4-2. It should be noted that critical loads have not been specified for the interest features of Ramsar sites, but the interest features are comparable to those of the Humber Estuary SAC and SPA.

Table 4-2: Critical Loads relating to Eutrophication and Acidification for interest features of SACs and SPAs in and around North Lincolnshire (From: APIS, 2019)

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
Humber Estuary SAC	Sandbanks which are slightly covered by sea water all the time	Not sensitive to eutrophication	Not sensitive to acidification	n/a
	Mudflats and sandflats not covered by seawater at low tide	No critical load assigned	Not sensitive to acidification	n/a
	Estuaries	20-30kg N/ha/yr	Not sensitive to acidification	Nitrogen loading can result in an increase in late successional species. An increase in productivity can also occur which can result in an increase in graminoids.
	Coastal lagoons			
	Salicornia and other annuals colonizing mud and sand			
	Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)			
	Embryonic shifting dunes	10-20kg N/ha/yr	Not sensitive to acidification	Nitrogen loading can result in an increase in biomass and increased N leaching.
	Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")			
	Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Acid type - 8-10kg N/ha/yr Calcareous type - 10-15kg N/ha/yr	Acid type Min Critical Load (CL)Min Nitrogen (N): 0.223keq MaxCLMinN: 0.438keq MinCLMax Sulphur (S): 0.420keq MaxCLMaxS: 4.110keq Calcareous type MinCLMinN: 0.856keq MaxCLMinN: 1.071keq MinCLMaxS: 4.000keq MaxCLMaxS; 4keq	Nitrogen deposition can result in an increase in tall grasses and a decrease in prostrate plants. Increased nitrogen leaching can occur from soils leading to soil acidification. Typical lichen species can often be lost. Acidification can cause leaching which will cause a decrease in soil base saturation, increasing the availability of Aluminium ions (Al3+). Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct impacts on lower plants (lichens and bryophytes).
	Dunes with *Hippophae rhamnoides*	No critical load assigned	MinCLMinN: 0.223keq MaxCLMinN: 0.438keq MinCLMaxS: 0.420keq MaxCLMaxS:	Acidification can cause leaching which will cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
			4.110keq	mycorrhiza and may have direct impacts on lower plants (lichens and bryophytes)
	Grey Seal *Halichoerus grypus*	Species broad habitat is not sensitive to eutrophication	Species broad habitat is not sensitive to acidification	n/a
	River Lamprey *Lampetra fluviatilis*	No critical load assigned for broad habitat of this species	No critical load assigned for broad habitat of this species	Nitrogen is often co-limiting in these systems with Phosphorous (P). Other sources of N can also be significant (e.g. diffuse agricultural pollution) Acidification can cause increased Al3+ concentrations which can impact on invertebrate populations and can be toxic to fish.
	Sea Lamprey *Petromyzon marinus*			
Hatfield Moor SAC	Degraded raised bogs still capable of natural regeneration [7120]	5-10kg N/ha/yr	MinCLMinN: 0.321keq MaxCLMinN: 0.321keq MinCLMaxS: 0.154keq MaxCLMaxS: 0.166keq	Nitrogen loading can increase vascular plants, alter growth and species composition of bryophytes and increase N in peat and peat water. Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens)
Thorne Moor SAC	Degraded raised bogs still capable of natural regeneration [7120]		MinCLMinN: 0.321keq MaxCLMinN: 0.321keq MinCLMaxS: 0.141keq MaxCLMaxS: 0.146keq	
River Derwent SAC	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	No critical load assigned	No critical load assigned	Nitrogen is often co-limiting in these systems with P. Other sources of N can also be significant (e.g. diffuse agricultural pollution) Acidification can cause increased Al3+ concentrations which can impact on invertebrate populations and can be toxic to fish.
	River Lamprey *Lampetra fluviatilis*	No critical load assigned for broad habitat of this species	No critical load assigned for broad habitat of this species	
	Sea Lamprey *Petromyzon marinus*			
	Bullhead *Cottus gobio*			
	Otter *Lutra lutra*			
Humber Estuary	Ringed Plover *Charadrius hiaticula*	Pioneer, low-mid, mid-upper	Species is not sensitive to	Eutrophication has the potential to have a positive

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
SPA	(passage and wintering)	saltmarshes: 20-30kg N/ha/yr	acidification impacts on supporting broad habitats	impact on species due to impacts on food supply.
	Pochard *Aythya ferina* (wintering)	Pioneer, low-mid, mid-upper saltmarshes: 20-30kg N/ha/yr No critical load assigned for broad habitat of standing open water and canals		Nitrogen is often co-limiting in these systems with P. Other sources of N can also be significant (e.g. diffuse agricultural pollution)
	Mallard *Anas platyrhynchos* (wintering)			Nitrogen loading can result in an increase in late successional species. An increase in productivity can also occur which can result in an increase in graminoids.
	Sanderling *Calidris alba* (wintering and passage)	Pioneer, low-mid-mid-upper saltmarshes: 20-30kg N/ha/yr	Species is not sensitive to acidification impacts on supporting broad habitats	Nitrogen loading can result in an increase in late successional species. An increase in productivity can also occur which can result in an increase in graminoids.
	Dunlin *Calidris alpina* (wintering)			
	Whimbrel *Numenius phaeopus* (passage)			
	Shelduck *Tadorna tadorna* (wintering)			
	Redshank *Tringa totanus* (passage and wintering)	Pioneer, low-mid, mid-upper saltmarshes: 20-30kg N/ha/yr	Species is not sensitive to acidification impacts on supporting broad habitats	Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in late successional species, increase in productivity and dominance of graminoids). Eutrophication also has the potential to have a positive impact on species due to impacts on food supply.
	Turnstone *Arenaria interpres* (wintering)			
	Bar-tailed Godwit *Limosa lapponica* (wintering)			
	Black-tailed Godwit *Limosa limosa* (wintering)			
	Knot *Calidris canutus* (wintering)			
	Grey Plover *Pluvialis squatarola* (wintering)			
	Avocet *Recurvirostra avosetta* (breeding and wintering)			
	Oystercatcher *Haematopus ostralegus* (wintering)			
	Scaup *Aythya marila* (wintering)	Species is not sensitive to eutrophication impacts on supporting broad	Species is not sensitive to acidification impacts on supporting broad	n/a

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
		habitats	habitats	
	Ruff *Philomachus pugnax* (passage)	Pioneer, low-mid-mid-upper saltmarshes: 20-30kg N/ha/yr Low and medium altitude hay meadows: 20-30kg N/ha/yr	Acid grassland: MinCLMinN: 0.223keq MaxCLMinN: 0.438keq MinCLMaxS: 0.42keq MaxCLMaxS: 4.11keq	Nitrogen loading can result in an increase in late successional species. An increase in productivity can also occur which can result in an increase in graminoids. An increase in tall grasses, and decreased diversity can also occur in meadows. Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens).
	Hen Harrier *Circus cyaneus* (wintering)	Northern wet heath: Calluna dominated: 10-20kg N/ha/yr Rich fens: 15-30kg N/ha/yr Pioneer, low-mid-mid-upper saltmarshes: 20-30kg N/ha/yr	Dwarf shrub heath: MinCLMinN: 0.499keq MaxCLMinN: 0.892keq MinCLMaxS: 0.42keq MaxCLMaxS: 4.11keq	Nitrogen loading can lead to a reduction in heather, lichens and mosses, with greater N leaching. Nitrogen loading can cause tall graminoids to dominate with a reduction in bryophytes. Nitrogen loading can result in an increase in late successional species. An increase in productivity can also occur which can result in an increase in graminoids. Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens).
	Bittern *Botaurus stellaris* (wintering and breeding) Marsh Harrier *Circus aeruginosus* (breeding)	Rich fens: 15-30kg N/ha/yr	Species is not sensitive to acidification impacts on supporting broad habitats	Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in tall graminoids, decrease in bryophytes).

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
	Lapwing *Vanellus vanellus* (wintering)	Pioneer, low-mid, mid-upper saltmarshes: 20-30kg N/ha/yr Arable and horticulture: Species' broad habitat is not sensitive to eutrophication		Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in late successional species, increase in productivity and dominance of graminoids). Eutrophication also has the potential to have a positive impact on species due to impacts on food supply.
	Goldeneye *Bucephala clangula* (wintering) Wigeon *Anas penelope* (wintering) Teal *Anas crecca* (wintering)	Pioneer, low-mid, mid-upper saltmarshes: 20-30kg N/ha/yr No critical load assigned for broad habitat of standing open water and canals		Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in late successional species, increase in productivity and dominance of graminoids). Eutrophication also has the potential to have a positive impact on species due to impacts on food supply.
	Little Tern *Sterna albifrons* (breeding)	Coastal stable dune grasslands (acid type): 8-10kg N/ha/yr Coastal dune grasslands (calcareous type): 10-15kg N/ha/yr Shifting coastal dunes: 10-20kg N/ha/yr	Acid grassland: MinCLMinN: 0.223keq MaxCLMinN: 0.438keq MinCLMaxS: 0.42keq MaxCLMaxS: 4.11keq Calcareous grassland: MinCLMinN: 0.856keq MaxCLMinN: 1.071keq MinCLMaxS: 4keq MaxCLMaxS: 4keq	Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in tall grasses, decrease in prostrate plants, increased N leaching from soils, soil acidification, loss of typical lichen species, biomass increase). Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens).
	Golden Plover *Pluvialis apicaria* (wintering and breeding)	Low and medium altitude hay meadows: 20-30kg N/ha/yr Pioneer, low-mid, mid-upper saltmarshes: 20-30kg N/ha/yr Improved	Acid grassland: MinCLMinN: 0.223keq MaxCLMinN: 0.438keq MinCLMaxS: 0.42keq MaxCLMaxS:	Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in late successional species, increase in productivity and dominance of graminoids, increase in tall

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
		grassland: Species' broad habitat is not sensitive to eutrophication	4.11keq Calcareous grassland: MinCLMinN: 0.856keq MaxCLMinN: 1.071keq MinCLMaxS: 4keq MaxCLMaxS: 4keq	grasses, decrease in diversity). Eutrophication also has the potential to have a positive impact on species due to impacts on food supply. Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens).
	Curlew *Numenius arquata* (wintering)	Pioneer, low-mid, mid-upper saltmarshes: 20-30kg N/ha/yr Low and medium altitude hay meadows: 20-30kg N/ha/yr	Acid grassland: MinCLMinN: 0.223keq MaxCLMinN: 0.438keq MinCLMaxS: 0.42keq MaxCLMaxS: 4.11keq Calcareous grassland: MinCLMinN: 0.856keq MaxCLMinN: 1.071keq MinCLMaxS: 4keq MaxCLMaxS: 4keq	Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. increase in late successional species, increase in productivity and dominance of graminoids increase in tall grasses, decrease in diversity). Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens)
Thorne and Hatfield Moors SPA (No data available for Common Crane)	Nightjar *Caprimulgus europaeus* (breeding)	Dwarf shrub heath: 10-20kg N/ha/yr Coniferous woodland: 5-10kg N/ha/yr	Dwarf shrub heath: MinCLMinN: 0.499keq MaxCLMinN: 1.107keq MinCLMaxS: 0.141keq MaxCLMaxS: 4.09keq Coniferous Woodland: MinCLMinN: 0.142keq MaxCLMinN: 0.357keq MinCLMaxS: 0.213keq	Potential negative impacts from eutrophication due to adverse impacts on the broad habitat types supporting this species (e.g. transition from heather to grass dominance, decline in lichens, changes in plant biochemistry, increased sensitivity to abiotic stress). Eutrophication also capable of causing altered soil function (including mycorrhizal associations) and nutrient imbalances. Acidification can cause leaching which can cause a decrease in soil base saturation, increasing the

Site	Qualifying Features	Critical Loads		Comment on Exceedance Impacts
		Nutrient Nitrogen	Acid	
			MaxCLMaxS: 10.768keq	availability of Al3+ ions. Mobilisation of Al3+ may cause toxicity to plants and mycorrhiza and may have direct effect on lower plants (bryophytes and lichens). Tree health may decline alongside changes to ground flora composition. There may be an associated increased susceptibility to pathogens and pests.
Note: keq relates to 1,000 eq. The unit eq refers to molar equivalent of potential acidity resulting from, for example, sulphur, oxidised and reduced nitrogen, as well as base cations (APIS, 2019).				

New development/housing and the associated increase in traffic has the potential to generate increases in atmospheric pollution, however, this is difficult to quantify. This HRA will consider the potential impact of this in relation to the international nature conservation sites identified in section 3, taking into account the vulnerability of their interest features, proximity to proposed development sites and likely associated traffic increases. However, the impact of air pollution from increased traffic associated with new development/housing, will be considered applicable to areas within 200m; the distance detailed in the Design Manual for Roads and Bridges (DRMB) guidance (Highways Agency, 2009) as the buffer within which the contribution of vehicle emissions can be considered significant. The exception to this buffer will be any new significant point-sources that the Local Plan proposes which will be considered on a policy/site-specific basis. In combination effects in relation to air quality impacts will be considered in line with Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Natural England, 2018).

4.2.4 Water Resource Use and Flow Regulation

New development and population increases can result in hydrological effects to existing watercourses and groundwater resources. Such effects can include changes to surface and ground water flow, levels and quality (see section 4.2.5 in relation to water quality); this can have subsequent effects on habitats and supported species of international nature conservation sites. The main types of potential hydrological effects are as follows:

- **Water abstraction** – new developments would increase the demand for water, potentially resulting in increased levels of water abstraction and subsequently affecting surface and/or ground water flow and levels. Any such effects would be more extreme during the summer as water demand will likely peak at this time. The assessment of potential effects of increased water demand will consider how the public water supply system operates and how it is regulated with other water-resource consents, in addition to policy provisions within the Local Plan to help manage demand and promote water efficiency measures.
- **Water discharges** – new developments could also result in an increase in discharges to water via foul and surface water/storm water drainage (flood risk). This could also occur during construction phases but would be short-term and of reduced significance. Such discharges can impact on surface water and ground water quantity and flows.

A large proportion of the activities which exploit water resources, such as agriculture, flood defence, recreation, power generation, fisheries or nature conservation, will not be directly controlled or influenced by options/policies contained within the Local Plan. Furthermore,

specific consenting regimes, independent of the Local Plan, tend to regulate water supply and exploitation in relation to water-resource sensitive international nature conservation sites. However, development promoted or supported by the Local Plan will likely increase demand for water.

Water supplies in North Lincolnshire are managed by Anglian Water and Yorkshire Water, with the majority of the area being within Anglian Water's area, and the Isle of Axholme area west of the River Trent falling into Yorkshire Water's area. Wastewater assets are maintained by Anglian Water and Severn Trent Water. Under the Water Act 2014, all water companies must produce a Water Resources Management Plan (WRMP) that sets out the strategy for managing water resources across their supply area over a 25-year period and estimates likely demand and forecasts supply.

Within the Anglian Water area, North Lincolnshire falls within the 'Central Lincolnshire' resource zone (which covers a much greater area than North Lincolnshire, including substantial proportions of North Lincolnshire) and the 'South Humber Bank' resource zone. Within the Central Lincolnshire resource zone, groundwater is abstracted from the Sherwood Sandstone and Lincolnshire Limestone, whilst surface water is abstracted from the River Ancholme. During the plan period (2020 to 2045), Anglian Water forecast average per-capita consumption falling to 120 l/h/d by 2045, driven by customers selecting metering (Anglian Water, 2019). However, within the Central Lincolnshire region, Anglian Water project an increase in demand between 2017 and 2045 of between 10 and 15%. As can be expected therefore, Anglian Water also predict a baseline deficit within central Lincolnshire by 2044/45. This is expected to be between -5 and -15 Ml/d within the resource zone by the end of the WRMP period (Anglian Water, 2019). In contrast, the South Humber Bank resource zone is predicted to have a surplus greater than 3 Ml/d by 2025, and remains in surplus by 2045 with the proposals in the WRMP, including a new water treatment works to treat the water currently used to supply the South Humber Bank to a potable standard (Anglian Water, 2019). Within the Yorkshire Water WRMP area, despite a supply demand deficit being predicted for 2018/19, in a dry year, it is predicted that by the mid-2030s a supply deficit is not expected. This is attributed to a change in the approach to climate change, reduced leakage, ongoing reduction in household usage due to increased levels of metering and reduced non-household demand (Yorkshire Water, 2019).

In the Humber estuary, several options were identified in the Yorkshire Water WRMP (2019) which have the potential to alter flow conditions in the Humber. These are the Ouse Raw Water Transfer Scheme, the Increased River Ouse Pump Storage Capacity Option, Aquifer Storage and Recovery Scheme 1, Reuse Abandoned Third Party GW Source Option 1, South Yorkshire Groundwater Option 1, East Yorkshire Groundwater Option 1 and 2, the Dam Raising Options, the Reservoir De-silting Option, River Calder Abstraction Option 1, River Aire Abstraction Option 1, the Six Additional Options for Raw Water Transfers, Humber Estuary Port Developments, the East Yorkshire Groundwater Option 1 Scheme and the East Yorkshire Coast Desalinisation Option.

The latter may have major adverse impacts on biodiversity and would be resource intensive. A slight increase in discharge is anticipated with the Ouse Raw Water Transfer in low flow conditions. In addition, minor adverse effects are predicted for dissolved oxygen levels and migratory Lamprey. Dissolved oxygen conditions will be therefore monitored before and after the scheme. Furthermore, any increase in discharge associated with this scheme will be largely ameliorated by a reduction in abstraction at additional Yorkshire Water Sources to comply with Water Resource Management Plans and Water Framework Directive requirements. It is further anticipated that abstraction at catchment source will be reduced to lessen in-combination effects.

The dam raising proposals may detrimentally affect international nature conservation sites, with the potential to inundate other landscape features. The Yorkshire Water WRMP concluded that there is the potential for abstraction proposals within the Humber Catchment to act in combination and have negative effects on both the quality and sustainability of groundwater and water resources in general.

Climate change is also predicted to alter flow conditions in the Humber. Wetter winters and drier summers are predicted (Ricardo Energy & Environment, 2019). However, despite these potential impacts identified, a HRA for the Yorkshire Water WRMP concluded that except for one option, and with mitigation taken into account, the preferred plan is not likely to have significant effects on the integrity of any of the designated sites, including the Humber Estuary, Thorne and Hatfield Moors and the River Derwent. The uncertainty regards the North Yorkshire Groundwater Option Scheme and its potential impacts on the North Pennine Dales Meadows SAC and consequently does not impact upon the sites considered in this HRA (Ricardo Energy & Environment, 2019).

One scheme was identified in the Anglian Water WRMP from the Central Lincolnshire resource zone as having the potential to impact upon the Humber. The South Humber Bank Water Resource Zone (WRZ) to Central Lincolnshire WRZ Transfer (31 MI/d) Treatment (Anglian Water, 2019).

In relation to Thorne and Hatfield Moors, they are particularly sensitive to flow regulation. Abstraction of water from around this site is likely to lead to scrub development which in turn causes further water loss through evapotranspiration. This is detrimental for mire communities especially *Sphagnum* and Cotton-grass *Eriophorum* sp. Scrub further shades the peatland which inhibits the development of the bog (Natural England, 2016). Three schemes in the Yorkshire Water WRMP were identified by Ricardo Energy & Environment (2019) as having the potential to impact upon Thorne and Hatfield Moors (Aquifer storage and recovery scheme 1, East Yorkshire Groundwater Option 1 and the option to reuse abandoned third party groundwater sources), however all were identified as not having significant impacts on the SACs and SPA due to abstraction being within the current limits, a lack of hydrological connectivity to the scheme and abstraction representing <1% of flow respectively.

In relation to the River Derwent SAC, Natural England (2014h) identify that over-abstraction can lead to reduced flows within the river with negative implications for the SAC interest features.

Taking into account the assessment already conducted as part of the relevant WRMPs, this HRA will consider the potential for impacts on an international nature conservation site due to changes in water levels and/or flows by taking into consideration the vulnerability of their interest features to such impacts, and the pathways i.e. the hydrological connectivity between the site and the areas proposed for development.

4.2.5 Water Pollution/Siltation

New development promoted under the local plan, and the likely associated population increases, can also impact on existing watercourses and groundwater resources in relation to water quality, particularly in relation to wastewater treatment. Again, this can have subsequent effects on habitats and supported species of international nature conservation sites. As discussed in section 4.2.4, new developments could result in an increase in discharges via foul and surface water/storm water drainage (flood risk). This could also occur during construction phases (e.g. oil spillage or other pollution incidents from construction plant and machinery) but would be short-term and of reduced significance. Discharges can also occur during the operational phase of works, for example, from oil released from a higher number of cars using roads close to the watercourse network or through increased use of waterways by motor powered boats.

The Humber River Basin Management Plan (RBMP) (Environment Agency, 2015a) identifies a number of significant water management issues across the river basin district. Within the Humber, key issues relating to water quality include:

- Pollution from waste water (e.g. from sewage treatment works, leakages from privately owned septic tanks, storm overflows) which affects 38% of waterbodies within the district. Population growth, alongside changes in rainfall patterns are increasing the pressure on the sewer network.

- Pollution from towns, cities and transport (e.g. rainwater draining from roofs, roads and pavements which carries pollutants such as grot, bacteria, oils, metals, vehicle emissions, detergents and road salt), which affects 16% of waterbodies in the district.
- Pollution from rural areas (e.g. from poor land management which increases the amount of soils/sediment entering watercourses; this can cause eutrophication. More intense rainfall as a result of a changing climate will likely exacerbate this), which affects 32% of waterbodies in the district.
- Pollution from abandoned mines which affects 4% of waterbodies in the district.

A review of data held by the Environment Agency's Catchment Data Explorer (2019) has identified a key indication of water quality within the operational catchments covered by North Lincolnshire, as shown in Table 4-3 below.

Table 4-3: Summary of Water Quality Statistics across Operational Catchments that fall wholly or partly within North Lincolnshire (From: Environment Agency, 2019)

Catchment	No. of Waterbodies	Ecological Status or Potential					Chemical Status	
		Bad	Poor	Moderate	Good	High	Fail	Good
Ancholme	14	0	1	12	1	0	0	14
Becks Northern	21	2	4	13	2	0	0	21
Trent and Trib	23	2	1	20	0	0	0	23
Isle of Axholme	12	0	3	9	0	0	3	9

Thorne and Hatfield Moors are largely rain-fed and hence naturally acidic (Holden *et al*., 2004). It follows that water quality is largely determined by atmospheric inputs. Hence, these lowlands raised bogs are especially susceptible to atmospheric nitrogen deposition and the factors which cause it (location of industry, agriculture, wildlife) (see section 4.2.3).

In contrast, water pollution in the Humber Estuary can follow several pathways. The main sensitivities in terms of water quality are dissolved oxygen levels which are susceptible to depletion during the summer months, particularly in the inner estuary. This may cause a barrier to Sea Lamprey when they are migrating through the area in summer months (Natural England, 2015). Likewise, Tributylin pollution is also common in the inner estuary, and several of the clay pits on the south bank fail the total Phosphorous (P) target and have impoverished macrophyte communities (Natural England, 2014i & 2015). It is thought that habitat restoration within the catchment is likely to improve water quality in the Humber. For example, wetland creation/ enhancement can filter pollutants before they enter the estuary, and 534ha of wetland have been created/enhanced in recent years around the Humber. Conversely, habitat destruction is likely to lead to an increase in water pollution events and water quality deterioration (Environment Agency, 2015a).

Natural England (2014h) highlights that water pollution is a significant issue in relation to the River Derwent SAC. This is attributed to the highly erodible soils of the catchment which are a dominant source of sediment input to the system, entering via run-off and directly supplied by agricultural drainage systems. Cattle poaching can also be a significant issue in places. However, being upstream of North Lincolnshire, any impacts the Local Plan has on water quality, are unlikely to impact upon the River Derwent SAC.

In relation to the Local Plan, the water quality effects are likely to be either controlled by existing consenting regimes, particularly in relation to point sources (which must undergo HRA), or have diffuse 'in-combination' effects that are difficult to quantify and this assessment will

focus on the development of suitable mitigating policy that will minimise the impacts of development on water quality. This HRA will therefore consider where potential water quality impacts on an international nature conservation site may arise due to changes in water quality, taking into consideration the vulnerability of their interest features to such impacts, and the pathways i.e. the hydrological connectivity between the site and the areas proposed for development.

4.2.6 Flooding and Water Level Management

Much of the North Lincolnshire area is very low-lying and is at flood risk. Development supported by the Local Plan therefore could exacerbate this. For example, impermeable surfaces can have considerable effects on waterbodies and watercourses, resulting in flow rates and volumes often exceeding the capacity of the receiving drains or watercourses, causing localised flooding and contributing to regional flood events.

With regards to international nature conservation sites, all sites that are not conditioned to flooding will be sensitive to flood events, and even those which experience periodic/regular flood events could be adversely impacted upon by large-scale events, of long duration, or which introduce water quality issues. Furthermore, development of flood risk management strategies and construction of flood defences in and around international nature conservation sites has the potential to result in adverse impacts, for example through direct habitat loss, changing hydrological processes, or through impacts such as 'coastal squeeze'. Coastal squeeze occurs when flood and coastal defences constrain the ability of intertidal habitats (most notably saltmarsh) to naturally move landward in response to sea level rise (Royal Haskoning, 2006). However, the Local Plan will likely have little influence over the flood defence strategy likely to be implemented across North Lincolnshire, and as part of river basin and catchment wide strategies, the likely impact of long-term flood policy on international nature conservation sites will already have been assessed as part of the HRAs conducted for other plans.

However, the Humber Estuary area is sensitive to flooding with 70,000 properties at risk (Cascade Consulting, 2013). Within the Humber, the intertidal habitat (mudflats and saltmarsh) is threatened by the development of flood defences and coastal squeeze; defences may need to be re-positioned, squeezing intertidal habitat. Rising sea levels further squeeze intertidal habitat. In cases of overriding public interest, sea defences may reduce intertidal habitat, but loss of habitat must be compensated through habitat creation elsewhere. This is a criterion of the National Biodiversity Action Plan which states that the total area of intertidal habitat must be maintained. Here the focus is on establishing new habitat as soon as possible so there is no net loss. Habitat creation may involve moving sea defences inland.

Thorne and Hatfield Moors are particularly sensitive to water level management. Peat forms under saturated conditions and is dependent on rain-fed nutrients/moisture. The water table level determines whether peat is accumulating or breaking down as any shift from anaerobic to aerobic conditions enhances decomposition. Furthermore, increased oxidation leads to increased mineralisation and an associated loss of nutrients/reduced fertility. Finally, bog pools represent a key habitat across the moors and hence their loss is associated with the species they support. There are a number of factors which may alter the hydrology of Thorne and Hatfield Moors. One is cutting drains to increase surface run off. This was practiced historically to harvest peat and has resulted in the widespread degradation of the moors. Moorland restoration, therefore, has sought to reverse this process by blocking drains across the sites. Another factor is afforestation which intercepts moisture and returns it to the atmosphere. Finally, water levels may be controlled directly via pumping (Holden *et al.* 2004).

Physical modification of the river, through the construction of flood embankments, which has removed connectivity between the river and floodplain, and channelisation, which has changed the natural river system and created vertical bank profiles, are identified as a key issue affecting the condition of the River Derwent SAC (Natural England, 2014h). However, being outside of North Lincolnshire, and with other plans and projects influencing flood risk

management policy, the Local Plan is unlikely to impact upon water levels and flood management within this site.

This HRA will consider how the Local Plan could potentially impact on flooding regimes in and around international nature conservation sites, both through increasing flood risk from inappropriate development and encouraging further implementation of flood risk management measures to allow development to proceed. It will assess how this could potentially impact on the interest features, taking into account their vulnerability.

4.3 Qualifying Features and Sensitivity to Impacts/Pathways

Table 4-4 shows the qualifying features of the international nature conservation sites within and adjacent to North Lincolnshire and identifies the pathways of impact to which they are most sensitive. Their qualifying features have been grouped into their broad habitat and species types to facilitate the sensitivity assessment. However, this is only applicable to SACs and SPAs; it does not directly relate to the criterion under which Ramsar sites are designated.

It must be noted that during the assessment of the likely impacts of the Local Plan on an international nature conservation site, all potential pathways of impact will be considered.

Table 4-4: Sensitivity of Qualifying Features to Potential Impacts/Pathways

	Potential Impacts/Pathways					
	Recreational Pressures	Urbanisation	Atmospheric Pollution	Water Resource Use/ Flow Regulation	Water Pollution/ Siltation	Flood and Water Level Management
SAC Habitat Groups						
Coastal habitats	✓	✓	✓	✓	✓	✓
Coastal habitats (sensitive to abstraction)	✓	✓	✓	✓	✓	✓
Estuarine and intertidal habitats	✓	✓	✓	✓	✓	✓
Submerged marine habitats	✓			✓	✓	✓
Bogs and wet habitats (sensitive to acidification)	✓	✓	✓	✓	✓	✓
Riverine habitats and running waters	✓	✓	✓	✓	✓	✓
SAC Species Groups						
Anadromous fish	✓	✓		✓	✓	✓
Marine mammals	✓	✓		✓	✓	✓
Non-migratory fish and invertebrates of rivers	✓	✓		✓	✓	✓
Mammals of riverine habitats	✓	✓		✓	✓	✓
SPA Bird Species Groups						
Birds of coastal habitats	✓	✓	✓	✓	✓	✓
Birds of estuarine habitats	✓	✓	✓	✓	✓	✓
Birds of lowland heaths and brecks	✓	✓	✓	✓	✓	✓
Birds of lowland freshwaters and their margins	✓	✓	✓	✓	✓	✓

5 North Lincolnshire Local Plan and Other Relevant Plans

5.1 Introduction

This section gives a brief description of the North Lincolnshire Local Plan and outlines the strategic objectives and Preferred Options.

The Habitat Regulations also require that the potential effects of the plan on international nature conservation sites must be considered 'in-combination with other plans or projects'. The 'in-combination' assessment must also consider within-plan effects (i.e. between policies or strategic sites). Consideration of 'in-combination' effects is not a separate assessment, but is integral to the screening and appropriate assessment stages and development of avoidance/mitigation measures. There is limited guidance available on the scope of the 'in-combination' element, particularly which plans should be considered. However, the assessment should not necessarily be limited to plans at the same level in the planning hierarchy and there is consequently a wide range of plans that could have potential 'in-combination' effects with the North Lincolnshire Local Plan due to its regional scale. This section identifies the plans that it is considered could potentially act 'in-combination' with the North Lincolnshire Local Plan to have 'significant effects' on international nature conservation sites.

5.2 North Lincolnshire Local Plan

North Lincolnshire Council is currently preparing a new single Local Plan for North Lincolnshire. Once adopted it will replace saved policies of the North Lincolnshire Local Plan (2003), the Core Strategy (2011) and Housing and Employment Land Allocations Development Plan Document (DPD) (2016), and the Lincolnshire Lakes Area Action Plan (AAP) (2016).

The new Local Plan is being prepared because:

1. There has been a change in legislation since the Core Strategy was adopted and the legislative requirement for plan making has changed. The preferred approach of the government is now for each Local Planning Authority to prepare a single Local Plan for its area.
2. The Core Strategy needs to be reviewed/updated to take account of national planning policy changes.

Development of a new Local Plan also provides opportunity to review and assess what the existing Local Development Framework has achieved since 2011, to re-evaluate the area's current position, and to look at what type of place North Lincolnshire will be in 19 years' time and how the Authority plans to get there.

None of the Preferred Options within the current Local Plan are directly connected with, or necessary to the nature conservation management of the sites identified in section 3 as potentially being impacted upon by the plan.

5.2.1 Current Status of Local Plan – Preferred Options and Site Allocations

Development of a new Local Plan has to go through a number of stages. The development of the new North Lincolnshire Local Plan is currently at the Preferred Options and Site Allocations stage. An initial (Regulation 18) consultation document was published between late February and mid-April 2017 to raise awareness of the Local Plan and to get the views of local communities and others about issues that should be covered in the plan. This was followed in February and March 2018 by publication of an Issues and Options (Regulation 18) document for consultation. This Issues and Options document was supported by a HRA screening assessment.

The North Lincolnshire Local Plan Preferred Options and Site Allocations, to which this HRA Screening relates, has been informed by the Issues and Options document, consultation responses received to date and all other available evidence and policy.

Within the Preferred Options Local Plan, a preferred spatial vision is presented, which seeks to build on the council's broader ambitions, emerging evidence and national policy. The spatial

vision aims to meet the council's ambitions that North Lincolnshire is safe, well, prosperous and connected. The full text of the spatial vision can be found in the Preferred Options consultation document (North Lincolnshire Council, 2020).

Beneath the spatial vision sit 14 spatial objectives, which are derived from the vision and focus on key issues that the Local Plan needs to address. They provide a broad direction for the spatial strategy and the detailed policies that will be included in the plan. The spatial objectives are also detailed in the Preferred Options consultation document (North Lincolnshire Council, 2019).

Beneath the spatial objectives sit a number of Policies, which set out a clear and co-ordinated approach to the provision of new homes, jobs and supporting infrastructure alongside the need to protect the interests of the communities and the environment. The Preferred Options Local Plan also identifies those sites that are most appropriate to accommodate future growth and development, taking into account the need to minimise impacts on the environment and make the best use of existing or planned infrastructure. It also identified the areas/locations that could be serviced by new infrastructure or services. It is these policies and site allocations that this HRA screening will consider for their potentially significant effects on the international nature conservation sites within and around North Lincolnshire

5.2.2 The Next Steps

Following consideration of all relevant evidence and the comments received at this Preferred Options and Site Allocations stage, the Plan will be refined and a draft Local Plan will be formally published by North Lincolnshire Council for a statutory 6 week consultation. After this consultation the comments received will be submitted alongside the draft Local Plan and supporting evidence to the Government for an examination in public. An independent Planning Inspector will be appointed to examine the Local Plan through a series of public hearings. After these hearings the Inspector will consider all evidence and prepare a report setting out whether or not the plan is 'sound'. Once this report is received, the Local Plan can be adopted and brought into force. Although the formal HRA is only completed on the final Plan prior to its adoption, pre-screening decisions are made through an iterative HRA process to inform the plan making process and to influence the final characteristics and features of the Plan.

5.3 Other Relevant Plans and Projects that Could Act In-combination

A series of individually modest effects may in-combination produce effects that are likely to adversely affect the integrity of one or more international nature conservation sites. Article 6(3) of the Habitats Directive tries to address this by taking into account the combination of effects from other plans or projects. The Directive does not explicitly define which other plans and projects are within the scope of the combination provision. Guidance in section 4.5.3 of '*Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC'*, published by the European Commission (2018), states:

'When determining likely significant effects, the combination of other plans and/or projects should also be considered to take account of cumulative impacts during the assessment of the plan or project in question. The in-combination provision concerns other plans or projects which have been already completed, approved but uncompleted or actually proposed'.

A large number of plans and projects have been identified as occurring within the plan area, and immediate surrounding area, and because of this a pragmatic approach has been adopted to their review. This includes approved but incomplete plans and projects, permitted ongoing activities and plans or projects begun/applied for but not yet approved. Table 5-1 below lists the relevant plans and projects that have been considered as having the potential to result in significant effects on international nature conservation sites in-combination with the North Lincolnshire Local Plan. A more detailed review is provided in Appendix A.

Table 5-1: Other Plans and Projects

Plan/Project	
Land Use Planning	
Lincolnshire Lakes Area Action Plan	
Neighbouring Local Authority Local Plans/Local Development Frameworks	Initial Draft Bassetlaw Plan
	Doncaster Local Plan
	East Riding Local Plan
	New Hull Local Plan
	North East Lincolnshire Local Plan
	Central Lincolnshire Local Plan
Neighbourhood Plans within North Lincolnshire	Appleby Parish Neighbourhood Plan
	Other Neighbourhood Areas are in the process of formulating their own Neighbourhood Plans, including Barrow upon Humber, Bonby, Brigg, Elsham, Goxhill, Kirton in Lindsey, Saxby All Saints, South Ferriby, Winteringham, Winterton and Worlaby, but have not yet been through examination so do not form part of the North Lincolnshire development plan.
Development/ Economic	
The Humber Strategic Economic Plan 2014-2020	
Greater Lincolnshire Strategic Economic Plan 2014-2030	
Able Logistics Park	
Able Marine Energy Park	
North Killingholme Power Project	
Green Port Hull / Paull Local Development Order	
Humber Gas Pipeline Replacement Project	
Water Management and Flooding	
Water Resource Management Plans (Anglian Water and Yorkshire Water)	
River Basin Management Plan (RBMP): Humber River Basin District	
Grimsby and Ancholme Catchment Flood Management Plan	
River Trent Catchment Flood Management Plan	
Humber Flood Risk Management Strategy	
Humber Estuary Coastal Authorities Group: Flamborough Head to Gibraltar Point Shoreline Management Plan 2010	
Nature Conservation	
Humber Management Scheme – Action Plan 2016	
Thorne and Hatfield Moors Site Improvement Plan	
Thorne Moors Water Level Management Plan	
The Humberhead Levels Partnership	
Lincolnshire Biodiversity Action Plan 2015-20	
Lincolnshire Geodiversity Strategy 2017-21	
Recreation and Tourism	
North Lincolnshire Rights of Way Improvement Plan	
England Coast Path Project	
Other	

Plan/Project
Local Transport Plan 2011 to 2026
Humber Area Local Aggregate Assessment (draft)
Waste Strategy 2012 - 2030
Action Plan for the Scunthorpe PM10 AQMA (2018)

6 Screening Assessment

6.1 Introduction

This section considers the policies and site allocations in the North Lincolnshire Preferred Options Local Plan (North Lincolnshire Council, 2020) and identifies whether or not they are likely to have significant effects on the integrity of international nature conservation sites, either alone or in-combination with other plans. This builds upon the HRA screening assessment conducted on the Issues and Options stage of the Local Plan (JBA Consulting, 2018).

The policies of the preferred options Local Plan have initially been screened following the methodology set out in DTA Publications Habitats Regulations Assessment Handbook (DTA, 2019). Each policy is allocated one or more screening category from this list shown in Table 6-1 below. The results of the initial screening are shown in Table 6-2. Where a number of categories to screen out a policy are applicable, the most relevant categories are listed in the table. Any policies with likely significant effects and any in-combination effects are further discussed in Table 6-4, where appropriate. The screening outcome in Table 6-4 includes any relevant in-combination assessment outcomes.

Table 6-1: Pre-screening categories for the policies in the North Lincolnshire Preferred Options Local Plan (adapted from DTA, 2019)

Screening Category	Description	Screening Outcome
A	General statement of policy/general aspiration	Screen out
B	Policy listing general criteria for testing the acceptability/sustainability of proposals	Screen out
C	Proposal referred to but not proposed by the plan	Screen out
D	General plan-wide environmental protection/ site safeguarding/ threshold polices	Screen out
E	Policies or proposals which steer change in such as way as to protect international nature conservation sites from adverse effects	Screen out
F	Policy that cannot lead to development or other change	Screen out
G	Policy or proposal that could not have any conceivable effect on a site	Screen out
H	Policy or proposal the (actual or theoretical) effects of which cannot undermine the conservation objectives (either alone or in-combination with other aspects of this or other plans or projects)	Screen out
I	Policy or proposal which may have a likely significant effect on a site alone	Screen in
J	Policy or proposal with an effect on a site but unlikely to be significant alone, so need to check for likely significant effects in combination	Dependant on in-combination test
K	Policy or proposal unlikely to have a significant effect either alone or in-combination	Screened out after the in-combination test
L	Policy or proposal which might be likely to have significant effect in-combination	Screened in after the in-combination test
M	Bespoke area, site or case-specific policies or proposals intended to avoid or reduce harmful effects on an international nature conservation site	Screened in

Table 6-2: Pre-screening table for policies in the North Lincolnshire Preferred Options Local Plan

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
Spatial Strategy for North Lincolnshire				
SS1p	Presumption in favour of sustainable development	Creating and delivering sustainable growth lies at the heart of the spatial strategy for North Lincolnshire, with all new development contributing towards sustainable development. When considering development proposals, the council will take a positive approach that reflects the presumption in favour of sustainable development contained in the NPPF.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
SS2p	Spatial strategy for North Lincolnshire	The spatial vision and development needs for North Lincolnshire will be delivered through the spatial strategy. The spatial strategy will deliver and support: • 7,961 new homes • creation of 11,500 new jobs in priority sectors • 91.5ha of employment land in key locations • physical, social and environmental infrastructure • protection and enhancement of the area's world-class natural and built environment • North Lincolnshire's visitor economy Decisions on investment in services and facilities, and location and scale of new development will be guided by the settlement hierarchy (i.e. Major sub-regional centres, principal towns, large service centres, larger rural settlements, smaller rural settlements, rural hamlets and villages).	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
SS3p	Development principles	Development in North Lincolnshire should follow a number of key principles (e.g. appropriate to area's character, encourage use of brownfield land, minimise impacts arising from climate change such as flood risk, provides good quality accessible open and green spaces etc.)	**B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **D** - General plan-wide environmental protection/ site safeguarding/ threshold polices – policy contains the key principle that development planning should avoid, remedy or mitigate any impact on natural features and open spaces and maintain or where possible seek net gains in	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
			biodiversity **K -** Policy or proposal not likely to have a significant effect either alone or in combination	
SS4p	Neighbourhood planning in North Lincolnshire	North Lincolnshire Council will encourage local communities to develop a Neighbourhood Plan by providing appropriate information and constructively engaging with local communities throughout the process. The council will also set a decision-making timetable and share this with those wishing to prepare a Neighbourhood Plan. Local communities will manage the diversity of the neighbourhood forum and establish dialogue with relevant stakeholders with a programme of community engagement.	**A** – General statement policy / general aspiration **G** – Policy or proposal that could not have any conceivable effect on a site **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
SS5p	Overall housing provision	Between 2017 and 2036, North Lincolnshire's housing requirement is for 7,961 new dwellings to be provided (419 new dwellings per year). Of these new dwellings around 2153 will be provided from sites that already have planning permission or are under construction. It is anticipated that the sites will be delivered in accordance with the housing delivery trajectory in Appendix 1 of the Local Plan. This will be a rolling five year supply of deliverable housing. For flexibility in delivery the council will allocate an additional 419 dwellings (increasing the total to 8380 dwellings over the plan period).	**A** – General statement policy / general aspiration – whilst this policy sets the over-arching vision for housing development in North Lincolnshire, the specific details and site allocations of how this policy will be implemented are contained within other policies, assessed elsewhere **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
SS6p	Spatial Distribution of Housing Sites	The delivery of new dwellings will be distributed across the settlement areas as follows: • 52% of housing growth allocated to Scunthorpe & Bottesford Urban Area (including Lincolnshire Lakes) • 13% to Barton on Humber • 12% to Brigg • remaining 23% across the other settlement areas	**I** – Policy or proposal which may have a likely significant effect on a site alone	In

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
		In rural areas housing development will be strictly limited with consideration for development relating to agricultural, forestry and countryside industries. All development should not have adverse impact to the on the environment and landscape.		
SS7p	Strategic Site Allocation – Lincolnshire Lakes	The Lincolnshire Lakes will deliver 3,000 dwellings through the creation of three sustainable villages to assist in meeting the housing requirement within North Lincolnshire. There will also be a Strategic Mixed Use Allocation for offices, Hotels, Public Houses and Health Centres.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
SS8p	Employment Land Requirement (including Strategic Employment Sites)	Over the period 2017 to 2036 provision will be made to deliver around 91.5 hectares of employment land. This will be provided for in line with the overall Development Strategy identified in Policy SS2p and will be delivered by the sites allocated under Policy EC1p Employment Land Supply. In addition to the Employment Sites listed under EC1p, the following Strategic Employment sites have also been identified: • South Humber Bank • North Killingholme • Lincolnshire Lakes	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
SS9p	Strategic Site Allocation - South Humber Bank	The South Humber Bank employment site (900 ha-gross area) is allocated as a strategic site for port activities to take special advantage of its location, flat topography and being adjacent to a deep water channel of the River Humber as an extension to Immingham Port and Humber Sea Terminal the site has a unique employment offer. Development of the site will have to meet a set of site specific criteria including employment maxims and protection of the sites ecological features. Environmental, ecological, heritage and flood risk assessments will be required for individual developments.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
SS10p	Development	Development limits will be applied to the Scunthorpe	**B** - Policy listing general criteria for testing the	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
	Limits	& Bottesford urban area, Principal Towns, Large Service Centres, Larger Rural Settlements and Smaller Rural Settlements. They will not be applied to rural settlements in the countryside. The following considerations will be taken into account (existing development patterns, capacity, existing planning consents/ development and character). Development outside these defined boundaries will be restricted to that which is essential to the functioning of the countryside. The extent of the development limits will be defined on the Policies Map and settlement insets.	acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	
Meeting the Housing Need				
H1p	Site Allocations	Lists the committed and proposed site allocations (Ha) for housing development within each settlement (see Table 6-3).	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
H2p	Housing Mix and Density	All housing schemes should deliver a mix of house types, tenures and size to balance the current housing offer. New housing developments should be built at a density appropriate to the character.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals – general policy about housing types on developments with no spatial reference **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
H3p	Affordable Housing	New residential housing development of 10 or more dwellings in North Lincolnshire must make provision for an element of affordable housing which is accessible to those unable to compete in the open housing market.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals – general policy about housing mix with no spatial reference **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
H4p	Housing for Older People	The council will support the provision of housing that maximises independence and choice for older people and other people with specific needs. These	**B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
		developments will have regard to the local need, the ability of future residents accessing essential services and ensure that an undue concentration of housing for older people doesn't arise. In addition to the provision of specialist accommodation, the council aims to ensure that older people are able to secure and sustain ongoing independence either in their own homes or with the support of family members.	significant effect either alone or in combination	
H5p	North Lincolnshire's Travelling Communities	The assessed accommodation needs of Gypsies and Travellers and Travelling Show People should be met on existing sites / yards with capacity in North Lincolnshire, and by maintaining a five year supply of sites across the Plan period as set out in the Policies Map. Any proposals for new sites will have to consider the following; (e.g. scale of development, local character and appearance of the landscape, vehicular and pedestrian access, environmental and flood risk/ drainage impacts etc.)	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
H6p	New Agricultural Workers or Forestry Dwellings	In the open countryside outside of the Development Limits, the erection of new dwellings in connection with a farm or other rural business will only be allowed where it satisfies other relevant policies of the Plan and meets certain criteria (e.g. applicant demonstrates no other viable option for utilising existing vacant dwellings, converting existing dwellings, local residential permission etc.). The size of the accommodation included within the proposed development should be appropriate to the needs of the enterprise rather than the occupier.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
H7p	Replacement, Alteration and Extensions to Dwellings in the Open Countryside	Proposals to replace or extend existing dwellings should not exceed the volume of the original dwelling, and all new construction should meet the current architectural design and appearance.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals – general policy with no reference to when or where developments would take place and gives no geographical reference to infer potential impacts to any international nature conservation	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
			sites **K -** Policy or proposal not likely to have a significant effect either alone or in combination	
H8p	Self-Build and Custom Build	The Council will support the development of self-build and custom build homes that assist in meeting the overall housing needs. On allocated sites of more than 200 dwellings, developers will be expected to supply at least 1% of dwelling plots for sale to self-builders taking in account the needs identified on the council's Self-Build and Custom Build Register. The council will support locally proposed self-build projects identified within a Neighbourhood Plan wherever possible.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals – general policy with no reference to when or where developments would take place and gives no geographical reference to infer potential impacts to any international nature conservation sites **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
H9p	Flats above Shops and the Use of Vacant Buildings for Housing	The use of premises above shops for residential uses will be permitted provided that there is no conflict with existing land uses and that there is adequate access and car parking nearby.	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
H10p	Backland and Tandem Development	Backland development or tandem development will be permitted following specific conditions (e.g. no loss of amenity area, no loss of privacy, no impact on the general quality and character of the area, no loss of important natural or man-made features etc.)	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
H11p	Houses in Multiple Occupation	Proposals for the creation of large Houses in Multiple Occupation and the sub-division of dwellings will be permitted following specific conditions (e.g. it would not result in the loss of family-sized dwellings in high density residential areas, it would not significantly harm the amenities of the occupiers of adjoining or neighbouring properties, the site has good vehicular and pedestrian access etc.)	**A** – General statement policy / general aspiration – general policy about housing type with no spatial reference **G** – Policy or proposal that could not have any conceivable effect on an international nature conservation site **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
H12p	Children's Homes	The development of both new and converted properties for Children Homes will be permitted so long as they meet certain criteria (e.g. the	**G** – Policy or proposal that could not have any conceivable effect on an international nature conservation site	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
		development is located within either the Urban Area, Principle Towns or Larger Service Area, the location of these homes is considered to ensure occupants aren't put at any risk, satisfactory outside space can be achieved etc.)	**K -** Policy or proposal not likely to have a significant effect either alone or in combination	
Delivering Jobs and Supporting the Economy				
EC1p	Employment Land Supply	Over the period 2017 to 2036, provision will be made to deliver at least 91.5 hectares (Ha) of employment land across North Lincolnshire. The specific sites for employment land will be protected for specified employment uses only. This policy outlines the land and use allocated to each site (see Table 6-3).	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
EC2p	Existing Employment Areas	Existing employment areas as identified on the Policies Map will be safeguarded for employment uses. Proposals which promote development or reuse of vacant sites located within existing employment areas for employment use will be supported subject to other relevant policies in the Plan. Proposals for the development of non-employment uses on existing employment sites will be permitted in certain situations. The following will also be considered in certain situations; other employment proposals, expansion of existing businesses, loss of employment sites and buildings to non-employment uses.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
EC3p	Defined Industrial Buffer Areas	Development will not be permitted within the defined amenity buffer areas associated with the South Humber Bank, North Killingholme Airfield and the former British Sugar Site, Brigg industrial areas. Within these areas, schemes for indigenous tree and shrub planting and habitat creation will be required.	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
EC4p	South Humber Bank - Landscape Initiative	It is proposed that the following measures will be undertaken throughout the South Humber Bank Landscape Initiative area; softening, screening, habitat conservation, habitat creation, field boundary management, field boundary management, tree and hedge planting.	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
			significant effect either alone or in combination	
EC5p	Wharves	Proposals for new or extended port, wharf and jetty facilities on the Rivers Humber and Trent will be permitted provided that there is no adverse impact on: i) sites of nature conservation interest; ii) high quality agricultural land; iii) the landscape of river corridors and coastal margins; iv) the flood defence system; v) the strategic and local road network; and vi) the amenity of settlements.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
EC6p	Supporting the Rural Economy	The council will seek to develop a sustainable rural economy by supporting appropriate, small scale rural enterprise. Proposals to diversify the range of economic activities on a farm or in a rural area will be supported in certain situations (e.g. to benefit the local community, conserve or enhance local character, have no detrimental impact on existing village shops and business etc.)	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
EC7p	A Sustainable Visitor Economy	Development and activities that will deliver high quality sustainable visitor facilities such as culture and leisure facilities, sporting attractions and accommodation, including proposals for temporary permission in support of the promotion of events and festivals, will be supported.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
Prosperous Town Centres				
TC1p	Retail Hierarchy and Town Centre and District Centre Development	The Council will protect and enhance a hierarchy of Sub- Regional, Town and District Centres for retail. Some non-shopping uses will also be permitted. The Council will also support proposals that would positively contribute to the evening economy.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
Supporting Sustainable Development in North Lincolnshire's Countryside				

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
RD1p	Supporting Sustainable Development in the Countryside	Outside settlement development limits land will be regarded as the countryside and certain forms of developments will be supported (e.g. Conversion of buildings for employment, conversion of buildings to form new housing where the character and heritage of the surrounding area is reflected).	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
Delivering and Quality Environment				
DQE1p	Protection of Landscape, Townscape and Views	Development proposals that would cause unacceptable harm and do not respect and protect the distinctive character and quality of the landscape or important features or views will not be permitted. Cumulative and individual impacts will be considered for proposals. Priority will be given to the protection and enhancement of the landscape character and natural beauty and setting of the proposed extension to the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB). The considerations set out in this policy are particularly important when determining proposals which have the potential to impact upon the proposed extension to the Lincolnshire Wolds AONB.	**A** – General statement policy / general aspiration **D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE2p	Landscape Enhancement	A number of landscape enhancement schemes are proposed. Development will only be permitted where it provides opportunities for landscape enhancement or creation.	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE3p	Biodiversity and Geodiversity	All schemes should protect and enhance biodiversity and geodiversity. Proposals which may affect an SPA, SAC or Ramsar site will be assessed according to their implications for the site's conservation objectives. Development proposals which are likely to have an adverse effect on a Site of Special Scientific Interest will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site. Biodiversity offsetting will be used	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **E** – Policies or proposals which steer changes in such a way as to protect an international nature conservation site **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
		where net gain cannot be achieved within the site boundary.	significant effect either alone or in combination	
DQE4p	Local Nature Reserves (LNRs)	It is proposed that a number of Currently Declared LNRs are protected. The Council currently has a target to declare and manage 2 hectares of Local Nature Reserve for every 1,000 people. Any development or land use change which is likely to have adverse impact on a LNR will not be approved unless it is demonstrated that the reasons for the proposal outweigh the nature conservation value of the site.	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DEQ5p	Nature Conservation and Recreational Land Uses	Planning permission will not be granted for development which would result in the loss of, or do demonstrable harm to, existing nature conservation and recreational land uses in the following locations: • Barton and Barrow Clay Pits • Humber Bridge to Chowder Ness • Humber Bridge to New Holland Mere	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE6p	Managing Flood Risk	The Council will support development proposals that avoid areas of current or future flood risk. Development within the Lincolnshire Lakes area will be required to comply with the flood management principles set out in the Western Scunthorpe Urban Extension Exception Test Strategy. Any further flood management proposals will have to be agreed by both the council and the Environment Agency. Development will be permitted in situations where flood risk caused by development meets certain criteria.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE7p	Sustainable Urban Drainage Systems	Development proposals must incorporate appropriate sustainable surface water drainage systems (SuDS) appropriate to the nature of the site. Proposals will have to demonstrate they adhere to SuDS guidance, enhancement opportunities and pollution control measures.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
			significant effect either alone or in combination	
DQE8p	Climate Change & Low Carbon Living	Proposals for development should be designed to mitigate the impacts of climate change and reduce carbon emissions. Development proposals should also be resilient to climate change. To support the NPPF aim of moving to a low carbon future, zero carbon development, it is necessary to encourage the greater use of renewable and low carbon energy in new development. This policy sets a series of criteria to be met by new residential, non-domestic and large scale scheme developments.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE9p	Renewable Energy Proposals	North Lincolnshire Council will support opportunities to maximise renewable energy capacity within North Lincolnshire. Proposals for renewable energy development will be supported where any significant adverse impacts are satisfactorily minimised and the residual harm is outweighed by the public benefits of the proposal. Where a development proposal would have a landscape impact the planning application should be accompanied by a detailed Landscape Impact Assessment. Proposals for wind and solar energy development will be permitted in specific areas (South Humber Bank strategic employment site and Northern Lincolnshire Edge or land identified in the Policies Map, or in an area that is identified for such development in an adopted Neighbourhood Plan).	**A** – General statement policy / general aspiration – general policy that contains no specific proposals, along with a number of environmental protection policies **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **D** – General plan-wide environmental protection/site safeguarding/threshold policies **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE10p	Local Green Space	Local Green Spaces identified on the Policies Map will be protected from development in line with NPPF. North Lincolnshire Council will encourage local communities to promote Local Green Spaces through the development of a Neighbourhood Plan.	**A** – General statement policy / general aspiration **D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
DQE11p	Important Open Space	An area identified as Important Open Space on the Policies Map will be safeguarded from development with the exception of certain circumstances. Development on an area of Important Open Space will only be permitted where it would not adversely affect its open character, visual amenity or wildlife value or compromise the gap between conflicting land uses. Where development is permitted, measures shall be taken to minimise its impact or, where necessary, make a positive contribution to such areas.	**A** – General statement policy / general aspiration **D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE12p	Green Infrastructure Network	The Council aims to maintain and improve the green infrastructure network by enhancing, creating and managing multifunctional green space. Proposals that are consistent with/ assist in delivery of this aim will be supported. Proposals that cause loss or harm to this network will not be permitted unless the need for and benefits of the development demonstrably outweigh any adverse impacts. Development proposals should ensure that existing and new green infrastructure is considered and integrated into scheme design from the outset.	**A** – General statement policy / general aspiration **D** – General plan-wide environmental protection/site safeguarding/threshold policies **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DQE13p	Protection of Trees, Woodland and Hedgerows	Proposals for all new development will, wherever possible, ensure the retention of trees, woodland and hedgerows and planting schemes will be required for all new development.	**A** – General statement policy / general aspiration **D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
Managing the Historic Environment				
HE1p	Conserving and Enhancing the Historic Environment	Development proposals must value, protect, conserve and seek opportunities to enhance the historic environment including Conservation Areas and Archaeology of North Lincolnshire. Where a development proposal would affect the	**A** – General statement policy / general aspiration **D** – General plan-wide environmental protection/site safeguarding/threshold policies **F** – Policy that cannot lead to development or	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
		significance of a heritage asset (whether designated or non-designated), including any contribution made to its setting, it must be informed by proportionate historic environment assessments and evaluations.	other change **K -** Policy or proposal not likely to have a significant effect either alone or in combination	
HE2p	Area of Special Historic Landscape Interest	The Isle of Axholme is designated as an area of Special Historic Landscape Interest. Within this area, development will not be permitted which would destroy, damage or adversely affect the character, appearance or setting of the historic landscape, or any of its features. Schemes to improve, restore or manage the historic landscape will be sought for any new development affecting the area of Special Historic Landscape Interest.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
Creating Sustainable Communities and Better Places				
CSC1p	Health and Wellbeing	The Council will seek to improve health and wellbeing in North Lincolnshire through supporting proposals for developments that enhance accessibility to the historic environment, greenspaces, and green infrastructure corridors. The Council will achieve this through numerous strategies such as using Active Design, supporting integrated design of community buildings and making provision for the needs of an ageing population etc.	**A** – General statement policy / general aspiration **B** - Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC2p	Health Care Provision	The Council will support the implementation of health care provision in North Lincolnshire, in order to modernise and improve the primary health care facilities, and to improve the health of residents through safeguarding and enhancing open space, facilities for sports and recreation and improving walking and cycling routes.	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC3p	Protection and Provision of Open Space, Sports and Recreation	The council will work with its partners, appropriate agencies and the voluntary sector to ensure the provision of good quality, well maintained sport and recreation facilities, which meet the needs of the local communities, will be secured, accessible and	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
	Facilities	improved.		
CSC4p	Allotments	The council will not grant planning permission for development that would result in the loss of allotments unless a suitable replacement can be provided or the allotment is under-used. Enhancements of nearby allotments may also be allowed.	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC5p	Golf Courses	Planning permission will be granted for the improvement of existing golf facilities and the provision of new golf courses and facilities where the proposal meets certain criteria (e.g. designed in harmony with surrounding landscape, retains important landscape features, there is no loss of versatile agricultural land etc.)	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
CSC6p	Water Based Leisure	Planning permission will be granted for the development of recreational activities on the Rivers Ancholme, Trent and Humber and on inland lagoons and water areas providing the following criteria: • the development does not prejudice important amenity, landscape or ecological characteristics of the waterway • there is no adverse effect on the provision and improvement of access points and footpath • recreational and leisure activities do not prejudice the operational requirements of rivers as commercial waterways	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
CSC7p	Commercial Horse Riding Establishments	Development of commercial horse riding facilities and livery stables will be permitted, subject to proposals meeting certain criteria (e.g. minimum grazing land per horse, scale and nature of proposal is appropriate to the character of the site, no adverse impact on nature conservation, archaeological or historical value etc.)	**A** – General statement policy / general aspiration – general policy that contains no specific proposals, along with environmental protection policies **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **D** – General plan-wide environmental protection/site safeguarding/threshold policies **K -** Policy or proposal not likely to have a	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
			significant effect either alone or in combination	
CSC8p	Educational Facilities	It is important that a sufficient choice of school and educational places is available to meet the needs of existing and new communities and requirements of education provision can be met. The following sites are allocated for new and extended school and college facilities:- • Land at Bowmandale School, Barton Upon Humber • Strategic Site Allocation Lincolnshire Lakes, Scunthorpe • West Common Lane, Scunthorpe	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **G** – Policy or proposal that could not have any conceivable effect on a site **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC9p	Nursery and Children's Day Care Provision	Any additional children's day nurseries, crèches and playgroups provision will be encouraged to locate within or adjacent to the Major Sub-regional Centre, Principal Towns, Larger Service Centres and Larger Rural Settlements or co-located within schools in order to facilitate linked trips by parents.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC10p	Community Facilities and Services	The provision of new community facilities, or the improvement of existing community facilities, which meet the needs of local residents will be supported in principle.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC11p	Entertainment and Cultural Facilities	Planning applications for development, which increases the provision of cultural/entertainment facilities in the area will be permitted in town centres subject to there being no conflict with other policies within this Plan.	**G** – Policy or proposal that could not have any conceivable effect on a site **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC12p	Restaurants and Hot Food Takeaway Establishments	Proposals for restaurant and hot food takeaway establishments (Use Class A5) will be permitted in town, district and local centres subject to certain criteria.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC13p	Burial Grounds	Cemetery sites are proposed on land at Plymouth	**G** – Policy or proposal that could not have any	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
	and Cemetery Provision	Road, Scunthorpe. If a need is identified for any other new cemeteries in North Lincolnshire, sites should be located adjacent or in close proximity to existing cemetery and crematoria facilities.	conceivable effect on a site **K -** Policy or proposal not likely to have a significant effect either alone or in combination	
CSC14p	Churches, Prayer Houses and other Places of Worship	Applications for planning permission for the change of use of properties and the extension of existing places of worship, and the construction of new buildings as places of worship will be approved subject to certain criteria.	**G** – Policy or proposal that could not have any conceivable effect on a site **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC15p	Tourism and Visitor Attractions	The visitor sector is an important and resilient part of the area's economy. In order to raise the quality of the visitor experience, the provision of new visitor attractions or the expansion of existing attractions will be permitted following specific criteria on location, scale and viability etc.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
CSC16p	Hotel and Guest House Accommodation	Within defined settlement boundaries new hotels, guest houses and bed and breakfast accommodation will be permitted provided that the development proposed is compatible with its surroundings in terms of siting, scale, design, materials and landscaping, and neighbouring residential amenity will not be detrimentally affected.	**A** – General statement policy / general aspiration – general policy that contains no specific proposals **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
CSC17p	Camping and Caravan Sites	New caravan and camping facilities (both touring and static) and change of use of existing facilities will be granted planning permission following specific conditions e.g. provision of built environment is limited to essential facilities.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
Planning for a Sustainable Supply of Minerals				
MIN1p	Mineral Supply Requirements	To support a steady and adequate supply of minerals including aggregates and industrial mineral, the council will seek to make available sufficient land. In doing so the council will seek to maintain a minimum crushed rock landbank of at least 10 years and a minimum sand and gravel landbank of at least seven years at all times.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
MIN2p	Mineral Safeguarding	To ensure the long-term conservation of nationally and locally important minerals in North Lincolnshire, Mineral Safeguarding Areas (MSAs) are defined to prevent their sterilisation by non-minerals development. These include; Chalk, Lincolnshire Limestone, Sand & Gravel, Silica Sand and Brick Clay. None-mineral development will be granted planning permission in certain situations.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
MIN3p	Mineral Extraction	Development for mineral extraction must demonstrate the extent, quality, significance and need for the resources to be extracted and consideration for the impacts.	**A** – General statement policy / general aspiration – whilst this policy sets the over-arching vision for supply of minerals in North Lincolnshire, there are no specific site allocations or proposals **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
MIN4p	Recycled & Secondary Aggregates	The use of recycled and secondary aggregates will be supported in order to reduce the reliance on primary aggregates and contribute towards sustainable development.	**A** – General statement policy / general aspiration – whilst this policy sets the over-arching vision for supply of minerals in North Lincolnshire, there are no specific site allocations, these are contained within other polices, assessed below. **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
MIN5p	Energy Minerals (Oil & Gas/ Hydrocarbons)	Proposals for the exploration, appraisal and development of conventional and unconventional hydrocarbons will be supported where they have the appropriate licences. Support will only be given to applications that significantly benefit the local economy and any cumulative and adverse impacts on the local environment or residential amenity can be avoided or mitigated.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
MIN6p	Mineral Sites	Provision to meet the mineral requirements in North Lincolnshire to 2036 will come from sites with planning permission for specific allocations.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
MIN7p	Borrow Pits & Ancillary Extraction	Permission will be granted for the development of borrow pits and extraction occurring as an ancillary activity. The proposals should demonstrate one of the following: • the borrow pit is in close proximity to the construction project • the extraction of the mineral can be clearly demonstrated to be ancillary • the proposal is for the prior extraction of minerals within a Mineral Safeguarding Area.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
MIN8p	Restoration, Aftercare & Afteruse of Mineral Extraction Sites	Proposals for minerals extraction and temporary waste management facilities will be granted where provision has been made for high standards and quality of restoration and aftercare of the site in timely manner, alongside delivery of a beneficial afteruse.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **D** – General plan-wide environmental protection/site safeguarding/threshold policies **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
Sustainable Waste Management				
WAS1p	Waste Management Principles	Development that encourages and supports the minimisation of waste production, and the re-use and recovery of waste materials will normally be supported.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
WAS2p	Waste Facilities	New waste management facilities should be located in sustainable locations that are appropriate to the proposed waste management use and its operational characteristics, and where impacts on the community and the environment can be avoided or addressed appropriately.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
WAS3p	Waste Management	Net self-sufficiency in waste management will be achieved through the provision of the waste	**A** – General statement policy / general aspiration	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
	Provision	management capacity needs of North Lincolnshire. This capacity will be met through existing operation waste management facilities (and extensions, where appropriate) and new facilities.	**K -** Policy or proposal not likely to have a significant effect either alone or in combination	
WAS4p	Safeguarding Existing Waste Sites & Infrastructure	Existing and planned waste management sites and infrastructure in North Lincolnshire will be safeguarded from inappropriate development. This will ensure that existing levels of waste management capacity is maintained.	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
WAS5p	Wastewater Treatment	Proposals for new or expanded wastewater treatment capacity will be permitted provided that it can be demonstrated that: • it contributes to the provision of a North Lincolnshire-wide network of facilities • there is a suitable watercourse to accept discharged treated water • there would be no deterioration in the ecological status of the affected watercourse • there would be no significant adverse impact on the condition, functionality or safety of water supply and wastewater infrastructure • there would be no significant adverse impact on the quality of life for local communities	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
WAS6p	Waste Management in Development	Proposals for new development should support the efficient use and recovery of resources throughout its lifetime including during construction, operation and/or occupation. This should include giving due consideration to sustainable waste management.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
WAS7p	Restoration & Aftercare	Proposals for temporary waste management development, including landfilling or landraising, will be permitted where they provide for the restoration and aftercare of the site in a phased manner during its operation and/or promptly on completion of the operation.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
Connecting North Lincolnshire				
T1p	Promoting Sustainable Transport	To reduce congestion, improve environmental quality and encourage more active and healthy lifestyles, the council will support measures that promote more sustainable transport choices.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
T2p	Promoting Public Transport	To support the spatial strategy and encourage sustainable transport use the Council will support measures and actively encourage through partnership working a transformed level of public transport service provision. This will include actively pursuing changes to rail franchises and timetables to improve services on the rail network to better integrate and link the key settlements. Support Demand Responsive Transport services across the area by seeking contributions from developers.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
T3p	New Development and Transport	In order to increase overall accessibility, minimise congestion and improve safety, new development will be supported where it is accessible, or can be made accessible, by sustainable modes of transport and addresses its likely transport impact.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
T4p	Parking	Development proposals that generate additional parking demand should ensure that appropriate vehicle, powered two wheeler and cycle parking provision is made. Developers will be expected to have considered and incorporated measures to minimise parking provision. Parking should incorporate facilities for electric vehicle charging and other ultra-low emission vehicles where appropriate.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
T5p	Cycle and Motorcycle Parking	Development proposals that generate additional parking demand should require that adequate cycle and motorcycle parking provision is made.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
T6p	Freight	The existing network of rail freight routes and infrastructure will be safeguarded. Disused railway alignments will be protected from development where there is a reasonable prospect of their re-use for transport purposes.	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
T7p	Safeguarding Transport Infrastructure	The council will safeguard the routes of, and support measures which deliver, maintain and improve, key transport infrastructure, identified on the Policies Map.	**I** – Policy or proposal which may have a likely significant effect on a site alone	In
T8p	Safeguarding Aviation	Humberside International Airport site, Sandtoft Airfield, Hibaldstow Airfield and the landing area at the former RAF Kirton in Lindsey are safeguarded for aviation uses. Any development at, or on nearby sites which will prejudice the aviation use of these sites will not generally be permitted.	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
Development Management				
DM1p	General Requirements	All new development, including extensions and alterations to existing buildings must achieve high quality sustainable design that contributes positively to local character, landscape and townscape, and supports diversity, equality and access for all. Also, the amenities which occupiers of neighbouring properties may reasonably expect to enjoy must not be harmed by or as a result of the development. Planning permission for development will only be permitted where it can be demonstrated that the levels of potentially polluting emissions, including effluent, leachates, smoke, fumes, gases, dust, steam, smell or noise do not pose a danger.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DM2p	Temporary Buildings	Planning permission will be granted for temporary buildings provided the following criteria are met: I. the building is not highly visible to the general public or detrimental to the amenity of the area/landscape	**A** – General statement policy / general aspiration **B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out

Policy No.	Policy Title	Policy Summary	Screening Category	Screening Outcome
		II. the development will not prejudice proposals for permanent development on the site		
DM3p	Environmental Protection	Development proposals as appropriate to their nature and scale, should demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise the risks of adverse impacts to air, land and water quality, whilst assessing vibration, heat, energy, light and noise pollution.	**D** – General plan-wide environmental protection/site safeguarding/threshold policies **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DM4p	Tele-communications and Broadband	Telecommunications proposals will only be permitted where appropriate in siting and appearance, and that where visually intrusive it must be demonstrated that a less visually intrusive method is not possible. The expansion of communications networks will be supported, including telecommunications and high-speed broadband. New residential and commercial developments must demonstrate they will provide sufficient digital connectivity.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
DM5p	Advertisements and shop fronts	Advertisements and new/alterations to shop fronts will be required to contribute to the visual appearance of the area's street scenes.	**B** – Policy listing general criteria for testing the acceptability / sustainability of proposals **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out
Delivering Infrastructure				
ID1p	Delivering Infrastructure	The council will require all developments to meet the on- and off-site infrastructure requirements needed to support the development and mitigate the impact of the development on the existing community and environment to make it acceptable in planning terms.	**A** – General statement policy / general aspiration **K -** Policy or proposal not likely to have a significant effect either alone or in combination	Out

6.2 Site Allocations

Policies SS8p (strategic sites), H1p (residential) and EC1p (employment) allocate specific sites for development. Table 6-3 below provides an initial screening assessment of the potential for each site being considered to impact upon international nature conservation sites, taking into account the location of the potential site allocation in relation to each of the international nature conservation sites and potential pathways of impact. This information is used to support the overall screening assessment (Table 6-4).

Taking into account the location of the international nature conservation sites in relation to the sites being considered for allocation, the identified potential hazards and impact pathways associated with the developments, an assessment has been made as to whether the site allocations in the Local Plan Preferred Options, either alone or in-combination with other plans, will have likely significant effects on any international nature conservation sites. This assessment is detailed in Table 6-4. Any relevant policies or site allocations that are considered to require further assessment in Table 6-2 and Table 6-3 are identified and considered in this table.

It should be noted that potential impacts from other plans and projects are only considered in the screening assessment where there is no likely significant effect on a designated site from the North Lincolnshire Local Plan Preferred Options alone.

Table 6-3: Site Allocations Initial Screening Assessment

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
SS9p	South Humber Bank	South Humber Bank	Employment – B1, B2, B8 (estuary related including energy generation)	900	This site is located immediately adjacent to the Humber Estuary SAC, SPA and Ramsar. Development of this site could result in atmospheric pollution and water quality/resources impacts.	In
SS8-2p	North Killingholme	North Killingholme	Employment – B1, B8	138	This site is located approximately 3.5km from the nearest international nature conservation site (Humber Estuary SAC, SPA and Ramsar). This site falls within the Natural England SSSI Impact Risk Zone for the Humber Estuary and requires further assessment of potential impacts due to the size of the development.	In
SS8-3p	Lincolnshire Lakes	Lincolnshire Lakes	Employment – Strategic mixed use area	21.14	This site is located approximately 1.7km from the nearest international nature conservation site (Humber Estuary SAC, SPA and Ramsar). This site falls within the Natural England SSSI Impact Risk Zone for the Humber Estuary and requires further assessment of potential impacts in relation to water supply.	In
H1C-1p (PA/2014/1183)	Scunthorpe	Plot 29 Hebden Road (PA/2014/1183)	14	0.48	All these proposed housing allocations for Scunthorpe are located within 4km of the Humber Estuary SAC, SPA and Ramsar. Individual sites alone may not result in significant impacts, however, in-combination there is the potential for increased recreational pressure. Other potential impact pathways include water discharge.	In
H1C-2p (PA/2017/2006)	Scunthorpe	Former Crosby Primary School, Frodingham Road	24	0.51		
H1C-3p (PA/2018/2186)	Scunthorpe	Woods along Scotter Road	36	2.98		
H1C-4p (PA/2007/0106)	Scunthorpe	30-32 Crosby Road	18	0.24		

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
H1C-5P (PA/2018/999)	Scunthorpe	Part of Advance Crosby Scheme Phase 2	22	0.36		
H1C-6p (PA/2017/1483)	Scunthorpe	Methodist Church Frodingham Road	14	0.12		
H1C-7p (PA/2017/1070)	Scunthorpe	Land at 1-3 Cliff Gardens Phase1	14	0.22		
H1C-8p (PA/2018/664)	Scunthorpe	Land at 1-3 Cliff Gardens Phase 2	10	0.2		
H1C-9P (SCUH-C3 / PA/2018/1363)	Scunthorpe	Former Tennis Courts Rowland Road	32	0.65		
H1C-10p (PA/2018/217)	Scunthorpe	Holgate Road	16	0.23	These sites are over 4.6km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. They are located beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1C-11p (SCUH-C2 / PA/2015/1369 and PA/2017)	Scunthorpe	Brumby Resource Centre, East Common Lane	122	2.03		
H1C-12p (PA/2018/1247)	Scunthorpe	Land North of Ancholme Road	13	0.24		
H1C-13p (PA/2003/0962	Scunthorpe	Lakeside	206	37.91		
H1C-14p (PA/2018/838)	Scunthorpe	Land south of Ashby Turn Primary Care Centre, The Link	18	0.26		
H1C-15p (PA/2018/2004)	Scunthorpe	Land Rear, Ashby Link, The Link, Scunthorpe, DN16 2US	10	0.3		
H1C-16p (SCUH-12 / PA/2017/2008)	Scunthorpe	Former Car park, Collum Avenue	14	0.16		
H1C-17p (PA/2017/1399)	Scunthorpe	Land off Bottesford Road	10	0.16		

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
H1C-18p (SCUH-13 / PA/2015/0728)	Scunthorpe	Former Darby Glass Offices and Factory, Sunningdale Road	60	1.71		
H1C-19p (PA/2018/1021)	Scunthorpe	Site of the Lilacs Warwick Road	25	0.50		
H1C-20p (SCUH-5 / PA/2017/2137)	Scunthorpe	Land off Burringham Road	85	2.49		
H1C-21p (PA/2018/1541)	Scunthorpe	Former Site Of The Star, Rochdale Road, Scunthorpe,	16	0.24		
H1C-22p (PA/2018/2266)	Scunthorpe	Former Priory Lane Infants School	36	0.89		
H1C-23p (SCUH-14 / PA/2015/1531)	Scunthorpe	Redevelopment of Westcliff Precinct	31	2.30	These sites are located within 4km of the Humber Estuary SAC, SPA and Ramsar. Whilst the individual sites alone may not result in significant impacts, in-combination there is the potential for increased recreational pressure. Other potential impact pathways include water discharge, particularly in relation to the larger residential developments such as at Dartmouth Road.	In
H1C-24p (SCUH-C8 / PA/2018/2404)	Scunthorpe	Land at Dartmouth Road	77	2.49		
H1C-25p (PA/2016/1601)	Scunthorpe	Cottage Beck Road, Albert Marson Court	27	0.54	This site is over 4.7km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1C-26p (PA/2018/483)	Scunthorpe	Land at Dragonby Road	14	0.44		
H1C-27p (PA/2018/1049)	Barton	Land to the rear of 13-19 Pasture Road	16	0.35	These sites are within 1.8km of the Humber Estuary SAC, SPA and Ramsar. Potential	In

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
H1C-28P (PA/2016/1763)	Barton	Coach and Horses Inn 86 - 88 High Street, Barton	18	0.34	impact pathways include water discharge and increased recreational pressure.	
H1C-29p (PA/2018/1118)	Barton	Land adjacent to the White Swan Public House	5	0.16		
H1C-30p (PA/2017/897)	Barton	The Laurels, Preston Lane	5	0.16		
H1C-31p (PA/2017/1109)	Barton	7a, Marsh Lane	5	0.15		
H1C-32p (PA/2018/1046	Barton	Bank House, 8 Holydyke	5	0.07		
H1C-33p (PA/2016/1611)	Brigg	Station Road	40	0.82	These sites are over 12km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1C-34p (PA/2014/0887)	Brigg	Island Carr	60	1.88		
H1C-35p (PA/2017/1234)	Brigg	Falcon Cycles, Bridge Street, Brigg, DN20 8NQ	67	2.2		
H1C-36p (PA/2004/0692)	Brigg	Silversides Lane	44	1.57		
H1C-37p (PA2018/510)	Barnetby le Wold	Land at Windsor Way	9	0.4		
H1C-38p (PA/2017/1989)	Barnetby le Wold	Site of Former The Railway Inn	6	0.15		
H1C-39p (PA/2019/752)	Barnetby le Wold	Railway Inn Phase 2	8	0.23		
H1C-40p (PA/2018/2316)	Broughton	Land at Burnside	10	0.5		
H1C-41p (PA/2019/936)	Crowle	Land adjacent 28 North Street	8	0.26	These sites are located within 1.8km of Thorne and Hatfield Moors SPA and Thorne Moors SAC and fall within the Natural England Impact	In
H1C-42p	Crowle	Land adjacent to 17	9	0.39		

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
(PA/2018/1259)		Low Cross Street			Risk Zones for the SSSIs corresponding to these sites. Potential for hydrological impacts due to water discharge and recreational pressures. However, they are also approximately 6.5km from the Humber Estuary SAC, SPA and Ramsar and therefore beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from these developments is not considered significant.	
H1C-43p (PA/2018/33)	Crowle	Land off Church Street, Crowle, DN17 4LE	7	0.26		
H1C-44p (PA/2018/1391)	Crowle	Manor House. Church Street	5	0.12		
H1C-45p (PA/2018/1581)	Goxhill	Land off Howe Lane and Hawthorne Gardens, Goxhill	84	3.35	This site is located approximately 3.3km from the Humber Estuary SAC, SPA and Ramsar. Potential impacts could occur from increased recreational pressure.	In
H1C-46p (PA/2016/337)	Kirton in Lindsey	Gleadells Mill Station Road	27	0.82	These sites are over 14km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1C-47p (KIRH-1 / PA/2017/389)	Kirton in Lindsey	Land west of Station Road	91	2.91		
H1C-48p (KIRH-2 / PA/2016/1704)	Kirton in Lindsey	Land at Beechcroft	41	2.49		
H1C-49p (PA/1999/0920)	Kirton in Lindsey	North of Spa Hill	20	6.52		
H1C-50p (KIRH-3 / PA/2017/1199)	Kirton in Lindsey	Land at Former RAF	302	14.26		
H1C-51p (PA/2017/511)	Kirton in Lindsey	Grayingham Road Land adjacent Maple Lea, Gainsborough Road	16	0.49		
H1C-52p (PA/2018/978)	Messingham	68 High Street, Messingham	7	0.25	This site is over 8km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km	Out

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
					distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	
H1C-53p (PA/2015/1390)	Winterton	Land to the rear of North Street and Cemetery Road,	135	6.62	This site is located approximately 3.3km from the Humber Estuary SAC, SPA and Ramsar. Potential impacts could occur from increased recreational pressure.	In
H1C-54p (PA/2013/1256, PA/2016/1710, PA/2017/233)	Ealand	7 Lakes Industrial Estate, Crowle Wharf	17	0.8	This site is located approximately 3.7km from Thorne and Hatfield Moors SPA and Thorne Moors SAC, however, it does not fall within any of the Natural England Impact Risk Zones and no potential impact pathways have been identified. It is also 5.4km from the Humber Estuary SAC, SPA and Ramsar and therefore beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant. No other no potential impact pathways have been identified.	Out
H1C-55p (PA/2014/0196)	Hibaldstow	Willow Farm, East Street	40	1.25	This site is over 15km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
H1C-56p (PA/2017/464)	Keadby	Old Railway Sidings, A18 from Althorpe to Gunness	14	0.52	This site is less than 0.5km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1C-57p (PA/2018/1884)	Scawby	West Street	8	0.60	These sites are over 8km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. They are located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1C-58p (PA/2016/805)	Scawby	19-23 West Street	5	0.38		
H1C-59p (PA/2017/2080)	Ulceby	Land north of Front Street, Ulceby	14	0.97		
H1C-60p (PA/2017/1450)	Ulceby	Land rear of new convenience store, off Church Lane, Ulceby	9	0.61		
H1C-61p	Ulceby	Land rear of Church Lane, Ulceby	10	0.77		
H1C-62p (PA/2017/674)	Wrawby	Land off Applefields	22	1.78	This site is over 12km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
SSH1p, SSH2p (Lincolnshire Lakes (PA/2013/1000 and PA/2013/1001)	Scunthorpe	West of Scunthorpe	3000	1000	This site is located approximately 2.3km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-1p (SCUH-1 / PA/2015/0246)	Scunthorpe	Phoenix Parkway Phase 1	246	7.96	These sites are located within 4.42km of the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water	In
H1P-2p (SCUH-2)	Scunthorpe	Phoenix Parkway Phase	56	1.88		

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
		2			discharge and increased recreational pressure.	
H1P-3p (SCUH-11)	Scunthorpe	Land at the Council Depot, Station Road	38	1.00		
H1P-4p (SCHU-C7)	Scunthorpe	Land at former South Leys School, Enderby Road	120	3.27		
H1P-5p (BARH-1, BARH-2)	Barton	Pasture Road South	199	21.40	These sites are located within 2.4km of the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-6p	Barton	Land off Barrow Road	200	6.00		
H1P-7p	Barton	Land to the South of Barrow Road	213	6.50		
H1P-8p	Barton	Land at Caistor Road	360	13.91		
H1P-9p	Barton	Land between Caistor Road and Eastfield Road	98	2.71		
H1P-10p (BRIH-1, BRIH-5)	Brigg	Land north of Atherton Way	149	4.40	These sites are over 13km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1P-11p (BRIH-2)	Brigg	Land at Western Avenue	186	5.54		
H1P-12p (BRIH-3)	Brigg	Wrawby Road Phase 2	333	11.97		
H1P-13p (BRIH-4)	Brigg	Wrawby Road Phase 1	152	4.31		
H1P-14p	Barnetby le Wold	Land at King`s Road Land	74	2.38		
H1P-15p (PA/2018/845)	Barrow upon Humber	Former Spencer Group Mill Lane	50	1.56	These sites are located within 2.5km of the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-16p	Barrow upon Humber	Land off Ferry Road/Chestnut Rise	59	1.8		
H1P-17p	Barrow upon Humber	Land off Ferry Road	54	1.65		

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
H1P-18p	Broughton	Land off the B1207	74	2.4	This site is over 12km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1P-19p (CROH-1)	Crowle	Land to the east of Fieldside	101	2.80	These sites are located approximately 2km from Thorne and Hatfield Moors SPA and Thorne Moors SAC fall within the Natural England Impact Risk Zones for the SSSIs corresponding to these sites. Potential for hydrological impacts due to water discharge and recreational pressures. However, they are also approximately 6km from the Humber Estuary SAC, SPA and Ramsar and therefore beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from these developments is not considered significant.	In
H1P-20p	Crowle	Land off Mill Road	57	1.05		
H1P-21p	Crowle	Land off Fieldside	20	0.5		
H1P-22p	Epworth	Yealand Flats	92	2.63	This site is located approximately 4.5km from Thorne and Hatfield Moors SPA and Hatfield Moors SAC, and do not fall within any of the Natural England Impact Risk Zones and no potential impact pathways have been identified.	Out

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
H1P-23p	Haxey	Land at Field House	86	2.96	This site is located approximately 5km from Thorne and Hatfield Moors SPA and Hatfield Moors SAC, and does not fall within any of the Natural England Impact Risk Zones and no potential impact pathways have been identified.	Out
H1P-24p	Messingham	Land to the North of Brigg Road	92	4.67	This site is over 8.5km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a considerable distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1P-25p	Winterton	Land at Top Road	83	2.90	This site is located approximately 4.4km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-26p	Burton upon Stather	Land off Darby Road	63	2.31	This site is located approximately 1.3km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-27p	Ealand	Land adjacent to Ivy House Farm, on Main street.	21	1	This site is located approximately 3.8km from Thorne and Hatfield Moors SPA and Thorne Moors SAC, however, it does not fall within any of the Natural England Impact Risk Zones and no potential impact pathways have been identified. It is also approximately 4.8km from the Humber Estuary SAC, SPA and Ramsar and therefore beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently	Out

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
					an increase in recreational pressure from these developments is not considered significant.	
H1P-28p	East Halton	Land off Mill Lane	29	1	This site is located approximately 2.6km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-29p	Hibaldstow	Land to the West of Station Road	48	4.2	Hibaldstow is over 15km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a significant distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1P-30p	New Holland	Land at Manchester Square	11	0.35	This site is located less than 1km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-31p	Scawby	Land south of Main Street	11	0.79	This site is over 13km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a significant distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1P-32p	South Killingholme	Land at School Road	21	0.69	This site is located approximately 3.6km from the Humber Estuary SAC, SPA and Ramsar. Potential impact pathways include water discharge and increased recreational pressure.	In
H1P-33p	Ulceby	Land east of	49	1.71	This site is over 8km from the Humber Estuary	Out

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
		Brocklesby Road			SAC, SPA and Ramsar and consequently no potential impact pathways have been identified. It is located a significant distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	
H1P-34p	Westwoodside	Land south of Doncaster Road	29	0.97	This site is located approximately 5.2km from Thorne and Hatfield Moors SPA and Hatfield Moors SAC, and does not fall within any of the Natural England Impact Risk Zones and no potential impact pathways have been identified.	Out
H1P-35p	Wrawby	Land off Melton Road	30	1	This site is over 12km from the nearest international nature conservation site and consequently no potential impact pathways have been identified. It is located a significant distance beyond the 4.42km distance which Fearnley *et al.* (2012) identifies as being the distance within which 88% of visitors to the Humber Estuary will travel and consequently an increase in recreational pressure from this development is not considered significant.	Out
H1P-36p	Wroot	Land at Field Lane	11	0.43	This site is located approximately 1.7km from Thorne and Hatfield Moors SPA and Thorne Moors SAC. Potential for hydrological impacts due to water discharge and recreational pressures.	In
EC1-1p	Scunthorpe	Normanby Enterprise Park	Employment – B1, B2, B8	38.87	This site is located approximately 1.6km from the nearest international nature conservation site (Humber Estuary SAC, SPA and Ramsar). This site falls within the Natural England SSSI Impact Risk Zone for the Humber Estuary and requires further assessment of potential impacts in relation to water supply, discharge	In

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
					and air pollution.	
EC1-2p	Scunthorpe	Land north of Tesco	Employment – B1, B8	39.96	This site is located approximately 1.3km from the nearest international nature conservation site (Humber Estuary SAC, SPA and Ramsar). This site falls within the Natural England SSSI Impact Risk Zone for the Humber Estuary and requires further assessment of potential impacts in relation to water supply and discharge.	In
EC1-3p	Kirmington	Humberside Airport	Employment – B1, B8	12	These sites are over 12km from the nearest international nature conservation site and consequently no potential impact pathways have been identified.	Out
EC1-4p	Kirmington	Humberside Airport	Employment – B1, B8	7.8		
EC1-5p	Sandtoft	Sandtoft Business Park	Employment – B1, B8	55.3	This site is located approximately 1.5km from the nearest international nature conservation site (Thorne and Hatfield Moors SPA and Hatfield Moors SAC). This site falls within the Natural England SSSI Impact Risk Zone for the Humber Estuary and requires further assessment of potential impacts in relation to water discharge.	In
EC1-6p	Barton upon Humber	Land to the north west of the A15 Barton Interchange	Employment – B1, B2, B8	15	This site is located approximately 1.5km from the nearest international nature conservation site (Humber Estuary SAC, SPA and Ramsar). This site falls within the Natural England SSSI Impact Risk Zone for the Humber Estuary and requires further assessment of potential impacts in relation to water supply, discharge and air pollution.	In
EC1-7p	Barnetby Top	Land to the south of Barnetby Top Interchange and to the west of the A18	Service Station and Lorry Park	6.14	These sites are over 12km from the nearest international nature conservation site and consequently no potential impact pathways have been identified.	Out
EC1-8p	Barnetby Top	Land to the south of Barnetby Top Interchange and to the	Employment – B1, B2, B8	10		

Site Reference	Location/ Settlement	Site Name	Allocation Type/ Humber of Dwellings	Site Area (ha)	Potential Impact	Screening Outcome
		east of the A18				
EC1-9p	M180 Junction 2	Land to the south of Crowle gyratory	Employment – B1, B8	5	This site is located approximately 4.4km from Thorne and Hatfield Moors SPA and Thorne Moors SAC, however, it does not fall within any of the Natural England Impact Risk Zones and no potential impact pathways have been identified.	Out
Note: **B1 Business** - Offices (other than those that fall within A2), research and development of products and processes, light industry appropriate in a residential area. **B2 General industrial** - Use for industrial process other than one falling within class B1 (excluding incineration purposes, chemical treatment or landfill or hazardous waste). **B8 Storage or distribution** - This class includes open air storage.						

Table 6-4: Screening Assessment

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
Humber Estuary SAC *Qualifying Features:* Coastal habitats Coastal habitats (sensitive to abstraction) Estuarine and intertidal habitats Submerged marine habitats Anadromous fish Marine Mammals - Given that the Grey Seal population for which this site is	Recreational pressures	A number of preferred policies within the North Lincolnshire Local Plan will result in increased residential development which could increase recreational pressures on the Humber Estuary SAC (SS2p, SS6p, SS7p, H1p, H5p, H6p). A population increase of 6% is anticipated in North Lincolnshire by 2039, with the greatest increase (55.4%) in people over 65 who have the greatest amount of leisure time. It is therefore likely that increasing numbers of visitors will use the amenity resource provided by the estuary, potentially result in increased disturbance (i.e. visual and noise) and trampling. Furthermore, policy EC7p, CSC6p, CSC15p and CSC17p promote development tourism and visitor attractions, including water-based recreation (CSC6p) which could attract visitors to the area putting further recreational pressure on this site. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Urbanisation	Being partly located within North Lincolnshire, any residential, employment, mineral, waste or transport development promoted under preferred options SS2p,	N/A in combination assessment to be undertaken as part of the Appropriate	**Likely significant effect**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
designated breeds at Donna Nook, over 30km from the North Lincolnshire boundary, it is unlikely to be impacted upon by the preferred options and site allocations		SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p have the potential to directly impact upon the qualifying features of the Humber Estuary SAC. This is particularly the case where development/allocations, are implemented in close proximity to the site boundary, or the supporting sites of Alkborough Flats and Chowder Ness. This could result in direct habitat loss where this occurs within the site boundary, or indirect impacts such as physical damage, habitat fragmentation or disturbance. ***Likely significant effect***	Assessment due to likely significant effects alone.	**(alone)**
	Atmospheric Pollution	Increased population in the area expected during the lifetime of the plan will likely increase the number of vehicles using the local road and motorway network. The Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. Preferred Options SS8p and H1p do not allocate any sites for residential development within 200m of the estuary, but there are sites allocated adjacent to major roads in North Lincolnshire that do pass in close proximity to the SAC, including the A18, A160, A1077, A161 and A15 which could increase traffic, and consequently emissions. In addition, T7p promotes the delivery, maintenance and improvement of key routes across the area, which could also increase transport and emissions. Furthermore, SS8p, SS9p, EC1p, EC5p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the catchment. This could have a significant impact on the site as APIS (2019) identify that a number of qualifying features (i.e. estuaries, coastal lagoons, saltmarsh habitats and dune habitats) are potentially sensitive to eutrophication and/or acidification. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
	Water Resource Use/ Flow Regulation	Given the highly developed coastline of the Humber Estuary, water abstraction and also discharges have the potential to significantly effect this site. However, Anglian Water (2019) identify that in the Central Lincolnshire resource zone, demand until 2045 will increase by between 10 and 15% leading to a baseline deficit. However, in this region water is abstracted from the Sherwood Sandstone and Lincolnshire Limestone groundwater, with surface water coming from the River Ancholme, not the Humber Estuary. Furthermore, the South Humber Bank resource zone is predicted to have a surplus by 2025. ***No likely significant effect***	No in-combination effects have been identified for water resource use and flow regulation. In relation to the Yorkshire Water WRMP, Ricardo Energy & Environment (2019), identify that there are number of options across the estuary that could impact on flow/level conditions and biodiversity in the Humber, but that the preferred plan is not likely to have significant effects on the integrity of the site.	**No likely significant effect (alone or in combination)**
	Water Pollution/ Siltation	A significant number of the preferred options and site allocations within the North Lincolnshire Local Plan have the potential to increase water pollution/siltation, both during any construction phases or operationally. For example, SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN6p, WAS2p and T7p relating to future housing growth/site allocations, employment sites, the rural economy, mineral development, waste management and infrastructure all have the potential to result in policies that could potentially lead to issues such as increased wastewater discharges, road run-off and surface water run-off, potentially adversely impacting on water quality in the Humber Estuary. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
	Flood and Water Level Management	A significant number of the preferred options and site allocations within the North Lincolnshire Local Plan have the potential to either increase flooding (e.g. through housing/ employment site development increasing surface water run-off, such through SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p) or require additional flood risk management measures to protect developments from flooding. This could adversely impact upon the Humber Estuary, in particular through coastal squeeze. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
Hatfield Moor SAC *Qualifying Features:* Bogs and wet habitats (sensitive to acidification)	Recreational pressures	A number of preferred policies within the North Lincolnshire Local Plan will result in increased residential development which could increase recreational pressures on Hatfield Moor SAC (SS2p, SS6p, SS7p, H1p, H5p, H6p). A population increase of 6% is anticipated in North Lincolnshire by 2039, with the greatest increase (55.4%) in people over 65 who have the greatest amount of leisure time. There is therefore the potential that increasing numbers of visitors will use the amenity resource provided by the moors. This could cause physical damage such as trampling/erosion or disturbance, potentially resulting in changes in species composition (Pellerin *et al*., 2006). Furthermore, policy EC7p, CSC15p and CSC17p promote development tourism and visitor attractions which could attract visitors to the area putting further recreational pressure on this site. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely Significant Effects (alone)**
	Urbanisation	Given that Hatfield Moor SAC is located outside of the North Lincolnshire boundary, direct impacts of urbanisation upon it (e.g. habitat loss) are unlikely. However, indirect impacts could still arise, for example from trampling, habitat fragmentation or disturbance as a result of development in close proximity to the site which may be promoted as a result of preferred options SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p,	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. ***Likely significant effect***		
	Atmospheric Pollution	Lowland raised bog habitats are vulnerable to atmospheric nitrogen deposition, especially of ammonia. Although anticipated increases in population during the life of the plan will likely increase the number of vehicles using the local road and motorway network, the Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. H1p does not allocate any areas for residential development within 200m of the SAC boundary. Furthermore, there are no major roads within 200m of the SAC boundary. However, policies SS8p, SS9p, EC1p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the catchment. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Water Resource Use/ Flow Regulation	Lowland raised bogs are particularly sensitive to water abstraction which can impact on the vegetation communities present. Hatfield Moors falls within the Yorkshire Water service area and Ricardo Energy & Environment (2019) identify that there are number of options within the plan that could impact on designated sites, but that the preferred plan is not likely to have significant effects on the integrity of Hatfield Moor. ***No likely significant effect***	None of the plans and projects reviewed were identified as potentially resulting in adverse impacts on Hatfield Moor SAC.	**No likely significant effect (alone or in combination)**
	Water Pollution/ Siltation	Several preferred options and site allocations within the North Lincolnshire Local Plan have the potential to lead to policies that will increase water pollution/siltation, both during any construction phases or operationally. For example, SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN6p, WAS2p and T7p relating to future housing growth/site allocations, employment sites, the rural economy, mineral	None of the plans and projects reviewed were identified as potentially resulting in adverse impacts on Hatfield Moor SAC.	**No likely significant effect (alone or in combination)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		development, waste management and infrastructure all have the potential to lead to issues such as increased wastewater discharges, road run-off and surface water run-off, potentially adversely impacting on water quality. However, as an ombrotrophic peat bog, the site is effectively located upstream of North Lincolnshire, it is unlikely that sources of water pollution within North Lincolnshire would be able to impact on this SAC. ***No likely significant effect***		
	Flood and Water Level Management	A significant number of preferred options and site allocations within the North Lincolnshire Local Plan have the potential to lead to policies that could either increase flooding (through housing/ employment site development increasing surface water run-off, such through SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p) or require additional flood risk management measures to protect developments from flooding. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
Thorne Moor SAC *Qualifying Features:* Bogs and wet habitats (sensitive to acidification)	Recreational pressures	A number of preferred policies within the North Lincolnshire Local Plan will result in increased residential development which could increase recreational pressures on Thorne Moor SAC (SS2p, SS6p, SS7p, H1p, H5p, H6p). A population increase of 6% is anticipated in North Lincolnshire by 2039, with the greatest increase (55.4%) in people over 65 who have the greatest amount of leisure time. There is therefore the potential that increasing numbers of visitors will use the amenity resource provided by the moors. This could cause physical damage such as trampling/erosion or disturbance, potentially resulting in changes in species composition (Pellerin *et al*., 2006). Furthermore, policy EC7p, CSC15p and CSC17p promote development tourism and visitor attractions which could attract visitors to the area putting further recreational pressure on this site. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
	Urbanisation	Given that Thorne Moor SAC falls partly inside the North Lincolnshire boundary, direct impacts of urbanisation upon it (e.g. habitat loss) could occur, although are unlikely. However, indirect impacts could arise, for example from trampling, habitat fragmentation or disturbance as a result of development in close proximity to the site which may be promoted as a result of preferred options SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Atmospheric Pollution	Lowland raised bog habitats are vulnerable to atmospheric nitrogen deposition, especially of ammonia. Although anticipated increases in population during the life of the plan will likely increase the number of vehicles using the local road and motorway network, the Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. H1p does not allocate any areas for residential development within 200m of the SAC boundary. Furthermore, there are no major roads within 200m of the SAC boundary. However, policies SS8p, SS9p, EC1p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the catchment. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Water Resource Use/ Flow Regulation	Lowland raised bogs are particularly sensitive to water abstraction which can impact on the vegetation communities present. Thorne Moors falls within the Yorkshire Water service area and Ricardo Energy & Environment (2019) identify that there are number of options within the plan that could impact on designated sites, but that the preferred plan is not likely to have significant effects on the integrity of Thorne Moor.	None of the plans and projects reviewed were identified as potentially resulting in adverse impacts on Thorne Moor SAC.	**No likely significant effect (alone or in combination)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		No likely significant effect		
	Water Pollution/ Siltation	Several preferred options and site allocations within the North Lincolnshire Local Plan have the potential to lead to policies that will increase water pollution/siltation, both during any construction phases or operationally. For example, SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN6p, WAS2p and T7p relating to future housing growth/site allocations, employment sites, the rural economy, mineral development, waste management and infrastructure all have the potential to lead to issues such as increased wastewater discharges, road run-off and surface water run-off, potentially adversely impacting on water quality. However, as an ombrotrophic peat bog, the site is effectively located upstream of North Lincolnshire, it is unlikely that sources of water pollution within North Lincolnshire would be able to impact on this SAC. ***No likely significant effect***	None of the plans and projects reviewed were identified as potentially resulting in adverse impacts on Thorne Moor SAC.	**No likely significant effect (alone or in combination)**
	Flood and Water Level Management	A significant number of preferred options and site allocations within the North Lincolnshire Local Plan have the potential to lead to policies that could either increase flooding (e.g. through housing/ employment site development increasing surface water run-off, such through SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p) or require additional flood risk management measures to protect developments from flooding. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
River Derwent SAC *Qualifying Features:* Riverine habitats and running waters Anadromous fish Non-migratory fish and invertebrates of	Recreational pressures	Whilst an increase in population in North Lincolnshire is expected during the lifetime of the plan, particularly of over 65s with a considerable amount of leisure time, it is unlikely to impact on the qualifying features of the SAC due to the distance from the North Lincolnshire boundary. Furthermore, Natural England (2014h) does not identify recreational pressures as a prioritised issue for this site. ***No likely significant effect***	None identified due to the distance of this site from the North Lincolnshire boundary, its position upstream, and the nature of the interest features present.	**No Likely Significant Effect (alone or in-combination)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
rivers Mammals of riverine habitats	Urbanisation	Being located 14km away from the North Lincolnshire boundary, direct and indirect impacts on the qualifying interests of this SAC from urbanisation and development promoted by the preferred options and site allocations in the Local Plan are unlikely. ***No likely significant effect***		
	Atmospheric Pollution	Although an increase in population is expected in North Lincolnshire during the lifetime of the plan, which is likely to result in increases in vehicles using the local road and motorway network, adverse impacts are not anticipated given the distance to the site which is over 14km from the local authority boundary. The Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at a distance of more than 200m. Combined with technological improvements reducing vehicle emissions no significant effects are anticipated. ***No likely significant effect***		
	Water Resource Use/ Flow Regulation	Whilst over-abstraction is identified as a threat to the interest features of this site, with the potential to lead to reduced flows (Natural England, 2014h), the distance from the North Lincolnshire boundary means that abstractions to support development and Local Plan policies within North Lincolnshire are unlikely to impact on this SAC. Furthermore, any increase in discharges associated with policies developed under the local plan are unlikely to impact upon this SAC, which is upstream of North Lincolnshire. ***No likely significant effect***		
	Water Pollution/ Siltation	Whilst water pollution and siltation are identified by Natural England (2014h) as significant issues for the River Derwent SAC, given the distance between North Lincolnshire and this site, and that the area is located downstream of it, no significant effects are identified. ***No likely significant effect***		

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
	Flood and Water Level Management	Given the distance between the River Derwent SAC and North Lincolnshire, and that the local authority is located downstream of the designated site, any increased flood risk arising from implementation of policies promoted by the Local Plan, or need to implement flood risk management measures, is not anticipated to have a likely significant effect on the qualifying features of this SAC. ***No likely significant Effect***		
Humber Estuary SPA *Qualifying Features:* Birds of coastal habitats Birds of estuarine habitats	Recreational pressures	A number of preferred policies within the North Lincolnshire Local Plan will result in increased residential development which could increase recreational pressures on the Humber Estuary SPA (SS2p, SS6p, SS7p, H1p, H5p, H6p). A population increase of 6% is anticipated in North Lincolnshire by 2039, with the greatest increase (55.4%) in people over 65 who have the greatest amount of leisure time. It is therefore likely that increasing numbers of visitors will use the amenity resource provided by the estuary, potentially result in increased disturbance (i.e. visual and noise) and trampling. Furthermore, policy EC7p, CSC6p, CSC15p and CSC17p promote development tourism and visitor attractions, including water-based recreation (CSC6p) which could attract visitors to the area putting further recreational pressure on this site. ***Likely significant effect***	Given that a number of the plans and projects reviewed have the potential to significantly impact upon the Humber Estuary SPA, and require mitigation and avoidance measures to offset adverse impacts, there is the potential that in-combination effects could arise with the North Lincolnshire Local Plan.	**Likely significant effect (alone and in-combination)**
	Urbanisation	Being partly located within North Lincolnshire, any residential, employment, mineral, waste or transport development promoted under preferred options SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p have the potential to directly impact upon the qualifying features of the Humber Estuary SPA. This is particularly the case where development/allocations, are implemented in close proximity to the site boundary, or the supporting sites of Alkborough Flats and Chowder Ness. This could result in direct habitat loss where this occurs within the	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		site boundary, or indirect impacts such as physical damage, habitat fragmentation or disturbance. ***Likely significant effect***		
	Atmospheric Pollution	Increased population in the area expected during the lifetime of the plan will likely increase the number of vehicles using the local road and motorway network. The Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. Preferred Options SS8p and H1p do not allocate any sites for residential development within 200m of the estuary, but there are sites allocated adjacent to major roads in North Lincolnshire that do pass in close proximity to the SAC, including the A18, A160, A1077, A161 and A15 which could increase traffic, and consequently emissions. In addition, T7p promotes the delivery, maintenance and improvement of key routes across the area, which could also increase transport and emissions. Furthermore, SS8p, SS9p, EC1p, EC5p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the catchment. This could have a significant impact on the site as APIS (2019) identify that fen, saltmarsh and dune grasslands, which support a number birds for which the site is designated, are sensitive to eutrophication, potentially impacting on community composition, increasing grass dominance and soil acidification). ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Water Resource Use/ Flow Regulation	Given the highly developed coastline of the Humber Estuary, water abstraction and also discharges have the potential to significantly effect the habitats that support the bird species for which this site is designated. However, Anglian Water (2019) identify that in the Central Lincolnshire resource zone, demand until 2045	No in-combination effects have been identified for water resource use and flow regulation. In relation to the Yorkshire Water WRMP, Ricardo Energy	**No Likely Significant Effect (alone or in-combination)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		will increase by between 10 and 15% leading to a baseline deficit. However, in this region water is abstracted from the Sherwood Sandstone and Lincolnshire Limestone groundwater, with surface water coming from the River Ancholme, not the Humber Estuary. Furthermore, the South Humber Bank resource zone is predicted to have a surplus by 2025. ***No likely significant effect***	& Environment (2019), identify that there are number of options across the estuary that could impact on flow/level conditions and biodiversity in the Humber, but that the preferred plan is not likely to have significant effects on the integrity of the site.	
	Water Pollution/ Siltation	A significant number of the preferred options and site allocations within the North Lincolnshire Local Plan have the potential to increase water pollution/siltation, both during any construction phases or operationally. For example, SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN6p, WAS2p and T7p relating to future housing growth/site allocations, employment sites, the rural economy, mineral development, waste management and infrastructure all have the potential to result in policies that could potentially lead to issues such as increased wastewater discharges, road run-off and surface water run-off, potentially adversely impacting on water quality in the Humber Estuary and the habitats that support the bird species for which this site is designated. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
	Flood and Water Level Management	A significant number of the preferred options and site allocations within the North Lincolnshire Local Plan have the potential to either increase flooding (e.g. through housing/ employment site development increasing surface water run-off, such through SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p) or require additional flood risk management measures to protect developments from flooding. This could adversely impact upon the Humber Estuary, in particular through coastal squeeze, which could result in a loss of intertidal habitat which the bird species for which the SPA is designated rely upon. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
Thorne and Hatfield Moors SPA *Qualifying Features:* Birds of lowland heaths and brecks Birds of lowland freshwaters and their margins	Recreational pressures	A number of preferred policies within the North Lincolnshire Local Plan will result in increased residential development which could increase recreational pressures on Thorne and Hatfield Moor SPA (SS2p, SS6p, SS7p, H1p, H5p, H6p). A population increase of 6% is anticipated in North Lincolnshire by 2039, with the greatest increase (55.4%) in people over 65 who have the greatest amount of leisure time. There is therefore the potential that increasing numbers of visitors will use the amenity resource provided by the moors. This could cause physical damage such as trampling/erosion of the habitats upon which Nightjar rely, or disturbance. Furthermore, policy EC7p, CSC15p and CSC17p promote development tourism and visitor attractions which could attract visitors to the area putting further recreational pressure on this site. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Urbanisation	Given that Thorne and Hatfield Moor SPA falls partly inside the North Lincolnshire boundary, direct impacts of urbanisation upon it (e.g. habitat loss of areas upon which Nightjar rely) could occur, although are unlikely. However, indirect impacts could arise, for example from trampling, habitat fragmentation or disturbance as a result of development in close proximity to the site	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		which may be promoted as a result of preferred options SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. ***Likely significant effect***		
	Atmospheric Pollution	Lowland raised bog habitats are vulnerable to atmospheric nitrogen deposition, especially of ammonia. APIS (2019) identify that there is the potential for negative impacts to arise on Nightjar populations (no data is currently available for Common Crane) from eutrophication adversely impacting on the supporting habitats of this species, for example through a transition from heather to grass dominance or changes in plant biochemistry. Although anticipated increases in population during the life of the plan will likely increase the number of vehicles using the local road and motorway network, the Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. H1p does not allocate any areas for residential development within 200m of the SAC boundary. Furthermore, there are no major roads within 200m of the SPA boundary. However, policies SS8p, SS9p, EC1p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the catchment. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
	Water Resource Use/ Flow Regulation	Lowland raised bogs are particularly sensitive to water abstraction which can impact on the vegetation communities present, and consequently the Nightjar and Common Crane populations they support. Thorne and Hatfield Moors SPA falls within the Yorkshire Water service area and Ricardo Energy & Environment (2019) identify that there are number of options within the plan that could impact on designated sites, but that the	None of the plans and projects reviewed were identified as potentially resulting in adverse impacts on Thorne and Hatfield Moors SPA.	**No Likely Significant Effect (alone or in-combination)**

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
		preferred plan is not likely to have significant effects on the integrity of the site. ***No likely significant effect***		
	Water Pollution/ Siltation	Several preferred options and site allocations within the North Lincolnshire Local Plan have the potential to lead to policies that will increase water pollution/siltation, both during any construction phases or operationally. For example, SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN6p, WAS2p and T7p relating to future housing growth/site allocations, employment sites, the rural economy, mineral development, waste management and infrastructure all have the potential to lead to issues such as increased wastewater discharges, road run-off and surface water run-off, potentially adversely impacting on water quality. However, as both components of the site (i.e. Thorne and Hatfield Moors) are ombrotrophic peat bogs, they are effectively located upstream of the main areas of North Lincolnshire where development is proposed, it is unlikely that sources of water pollution within North Lincolnshire would be able to impact on this SPA. ***No likely significant effect***	None of the plans and projects reviewed were identified as potentially resulting in adverse impacts on Thorne and Hatfield Moors SPA.	**No Likely Significant Effect (alone or in-combination)**
	Flood and Water Level Management	A significant number of preferred options and site allocations within the North Lincolnshire Local Plan have the potential to lead to policies that could either increase flooding (e.g. through housing/ employment site development increasing surface water run-off, such through SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p) or require additional flood risk management measures to protect developments from flooding. ***Likely significant effect***	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely significant effects alone.	**Likely significant effect (alone)**
Humber Estuary Ramsar	Recreational pressures	Given that the Humber Estuary SAC and SPA is designated for very similar qualifying features to the Ramsar Site the assessments detailed above are also considered applicable to the Ramsar Site.	N/A in combination assessment to be undertaken as part of the Appropriate Assessment due to likely	**Likely significant effect (alone)**
	Urbanisation			

Designated Site	Potential Impacts and Pathways	Potential Hazards Impact Pathways	Potential In-combination effects with other plans or projects (if applicable)	Screening Assessment
Qualifying Features: Criterion 1 – the site is a representative example of a near-natural estuary with a range of habitats Criterion 3 – supports a breeding colony of Grey Seals at Donna Nook and Saltfleetby-Theddlethorpe dune slacks support breeding Natterjack Toad Criterion 5 – supports 153,934 waterfowl in the non-breeding season (5-year peak mean 1996/97-2000/01) Criterion 6 – Contains populations of a number of species at levels of international importance on passage and over winter Criterion 8 - it is an important migration route for both River and Sea Lamprey	Atmospheric Pollution Water Resource Use/ Flow Regulation Water Pollution/ Siltation Flood and Water Level Management	***Likely Significant Effect*** The exceptions to this area the qualifying features of amphibia, which relates to populations of Natterjack Toad and marine mammals, which relate to Grey Seal. The population of Natterjack Toads is located at Saltfleetby-Theddlethorpe dunes on the coast between Cleethorpes and Mablethorpe, over 35km from the North Lincolnshire boundary, and the Grey Seal population is at Donna Nook over 30km away. Given these considerable distances, it is not considered that these qualifying features will be significantly affected the North Lincolnshire Local Plan Preferred Options and site allocations. ***No Likely Significant Effect***	significant effects alone. For Natterjack Toad and Marine Mammals, no in combination effects with other plans or projects have been identified.	**No likely significant effect (alone or in combination)**

6.1 Screening Statement and Conclusions

The majority of development policies within the North Lincolnshire Preferred Options Local Plan have been screened out alone and in combination with other plans or projects. The exception to this are listed below, and this due to the level of development, nature of the policy and site allocations proposed:

- SS2p – Spatial Strategy for North Lincolnshire
- SS6p – Spatial Distribution of Housing Sites
- SS7p – Strategic Site Allocation – Lincolnshire Lakes
- SS8p – Employment Land Requirement (including Strategic Employment Sites)
- SS9p – Strategic Site Allocation – South Humber Bank
- H1p – Site Allocations
- H5p – North Lincolnshire's Travelling Communities
- H6p – New Agricultural Workers of Forestry Dwellings
- EC1p – Employment Land Supply
- EC5p – Wharves
- EC7p – A Sustainable Visitor Economy
- RD1p – Supporting Sustainable Development in the Countryside
- CSC5p – Golf Courses
- CSC6p – Water Based Leisure
- CSC15p – Tourism and Visitor Attractions
- CSC17p – Camping and Caravan Sites
- MIN1p – Mineral Supply Requirements
- MIN5p – Energy Minerals (Oil & Gas/Hydrocarbons)
- MIN6p – Mineral Sites
- WAS2p – Waste Facilities
- WAS5p – Wastewater Treatment
- T7p – Safeguarding Transport infrastructure

The most likely effects of the potential site allocations within the plan on international nature conservation sites are related to pressures from new development, including recreational impacts, atmospheric pollution, water abstraction/discharge, increased water pollution and flood risk management pressures.

This screening assessment has determined that the North Lincolnshire Preferred Options and site allocations are not likely to have significant effects, either alone or in-combination with other plans, on the following international nature conservation sites:

- River Derwent SAC

The North Lincolnshire Preferred Options Local Plan, including site allocations, could potentially have significant adverse effects alone on the following sites:

- Humber Estuary SAC
- Hatfield Moor SAC
- Thorne Moor SAC
- Humber Estuary SPA
- Thorne and Hatfield Moors SPA
- Humber Estuary Ramsar

Therefore, an Appropriate Assessment is required to assess in more detail the likely nature of the effects on the integrity of these international nature conservation sites.

7 Appropriate Assessment

7.1 Introduction

This section describes Tasks 2 and 3 of the HRA of the North Lincolnshire Local Plan Preferred Options and site allocations, as outlined in Section 2.

Where the potential for significant effects has been identified, the nature and likely scale of effects on the integrity of the individual international nature conservation sites are reported, excluding those aspects that have been screened out. Additional information and interpretation is provided to allow for a reasonable assessment of the effects, and to identify appropriate avoidance/mitigation included within the plan to ensure that adverse effects do not occur.

7.2 Screening Conclusion

The HRA Task 1 screening assessment identified that the North Lincolnshire Local Plan Preferred Options and site allocations could potentially have significant adverse effects on the following sites:

- Humber Estuary SAC
- Hatfield Moor SAC
- Thorne Moor SAC
- Humber Estuary SPA
- Thorne and Hatfield Moors SPA
- Humber Estuary Ramsar

7.3 Assessment of Effects on Site Integrity

This section details the Appropriate Assessment of the potential effects of the North Lincolnshire Local Plan Preferred Options and site allocations on the integrity of the identified international nature conservation sites. In line with the Holohan v An Bord Pleanala ECJ case (C-462/17), this assessment considers typical habitats or species, within or outside of a European site boundary, if they are necessary to the conservation of the habitat types and species listed for the protected area.

7.3.1 The Humber Estuary SAC

The qualifying features, conservation objectives and site vulnerabilities for the Humber Estuary SAC are provided in Table 3-2.

The screening assessment concluded that the Humber Estuary SAC could be at risk from recreational pressures, urbanisation, atmospheric pollution, water pollution/siltation and flood and water level management. The interest feature of Grey Seal was screened out of the assessment with the known breeding colony being located over 30km away from the district boundary at Donna Nook. All other interest features are considered in this assessment.

Details for the Appropriate Assessment of the Local Plan Preferred Options and site allocations, both alone and in-combination with other plans and projects on the integrity of the Humber Estuary SAC in relation to the impacts identified in the screening assessment are described in Table 7-1.

Table 7-1: Test of Adverse Effects on Integrity on the Humber Estuary SAC

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Sandbanks which are slightly covered by sea water all the time Estuaries Mudflats and sandflats not covered by seawater at low tide Coastal lagoons *Salicornia* and other annuals colonizing mud and sand Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) Embryonic shifting dunes Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes") Fixed coastal dunes with herbaceous vegetation ("grey dunes") Dunes with *Hippophae rhamnoides* River Lamprey	Recreational Pressures	Development of new housing as a result of policies within the Local Plan Preferred Options, including policies SS2p, SS6p, SS7p, H1p, H5p and H6p, could result in adverse impacts on the Humber Estuary SAC due to increased numbers of visitors, which could damage SAC habitats through increased trampling, litter, vandalism etc. In particular, policy H1p allocates 39 sites, with 5490 dwellings, for residential development within 4.42km of the estuary (see Table 6-3). Fearnley *et al.* (2012) identifies this distance as being that within which 88% of visitors to the Humber Estuary will travel and it is therefore considered that residential development within this zone could result in a significant increase in visitor pressures to the site. This residential development will facilitate population growth, which is expected to be around 6% over the lifetime of the plan, with the largest growth in people over 65 (55.4% growth is predicted) (North Lincolnshire Council, 2017). This group often have the greatest amount of leisure time, further increasing recreational pressures on the site. Furthermore, a number of policies within the Local Plan promote development of the tourist and recreational sectors. For example, EC7p promotes a sustainable visitor economy through development of high quality visitor facilities, CSC5p promotes development of golf courses, CSC6p promotes development of water-based recreation (including on the River Humber), CSC15p aims to provide new visitor attractions and CSC17p promotes development of new	Despite promoting residential development, policies SS2p, SS7p and H5p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Policies DQE11p, DQE12p and CSC3p also aim to strengthen the contribution that open space, sport, leisure and recreation facilities make to North Lincolnshire's tourist network and enhance existing facilities. This will reduce the potential for increased recreational pressure on the Humber Estuary SAC by providing alternative facilities. Furthermore, policy CSC3p states that all new residential developments of 10 dwellings or more (or on sites of 0.5ha or more) will need to provide high-quality open spaces, sport and recreation facilities to meet the needs of additional residents. These new open spaces and recreational facilities will provide alternative attractions in North Lincolnshire, thereby reducing visitor pressure on the SAC. Under policy H1p, dependent on the scale of residential development proposed, it is likely that a project level HRA of the direct	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Lampetra fluviatilis Sea Lamprey *Petromyzon marinus*		caravan and camping facilities, all of which could attract more visitors to North Lincolnshire increasing visitor pressure on the Humber Estuary SAC. In-combination, other plans and strategies which promote recreational and tourist developments, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, the North Lincolnshire Rights of Way Improvement Plan and the England Coast Path strategy could lead to a cumulative increase in recreational pressures.	and indirect impacts of the development of each of the allocated sites will be required, and will be expected to consider changes in recreational pressures and impacts of increased visitor numbers on sensitive habitats. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. For example, the provision of open space and recreational/leisure facilities as part of any development proposed. Policy DQE3p reinforces the need for an Appropriate Assessment for any projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Urbanisation	A number of policies promote residential, employment, mineral, waste or transport development within North Lincolnshire, including SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. However, no residential sites allocated for development under H1p are located within the boundaries of the SAC, the closest being H1C-56p at Keadby which is 300m from the site boundary; there will therefore be no direct impacts on the	Although they promote a range of development types, polices SS2p, SS7p, SS9p, H5p, EC5p and WAS2p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. For example, SS9p specifically states that any development on the South Humber Bank shall give appropriate consideration to	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		Humber Estuary SAC of habitat loss or physical damage from residential development arising from policies in the Local Plan. However, there are two employment site allocations under policy EC1p, at Flixborough and New Holland, and also SS9-1p on the South Humber Bank that fall slightly within, or directly abut, the SAC boundary. Direct habitat loss or physical damage could therefore arise. Indirect impacts of urbanisation, such as increased recreational pressure, atmospheric pollution and impacts on the water environment are considered elsewhere in this table. In-combination effects could occur with other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan and the Greater Lincolnshire Strategic Economic Plan. Specifically, in the North Killingholme area impacts from the Able Logistics Park, Able Marine Energy Park and the North Killingholme Power Project could act in-combination sites allocated under the Local Plan, including SS9-1p South Humber Bank and SS8-2p North Killingholme Airfield.	internationally protected nature conservation sites and must comply with the requirements of the Habitats and Birds Directive, and specifically for this policy the South Humber Bank mitigation strategy which provides for compensatory habitat creation, including at Halton Marshes which also already been constructed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Dependent on the scale, location and nature of development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Atmospheric	APIS (2019) identifies that a number of qualifying features of the Humber Estuary SAC	Policy T3p states that new development will be supported where it is accessible, or	**No adverse impact upon**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
	Pollution	(i.e. estuaries, coastal lagoons, saltmarsh habitats and dune habitats) are potentially sensitive to eutrophication and/or acidification as a result of air pollution. There are a number of major roads in close proximity to the Humber Estuary SAC, which is unsurprising given the substantial size of the designated site. This includes the A18 (bounds the site at Keadby Bridge), A1077 (located on the site boundary at South Ferriby) and A15 (crosses the site via the Humber Bridge). Pollutant levels can be expected to fall substantially at a distance of more than 50m from the source and can fall to background levels at a distance of more than 200m (Design Manual for Roads and Bridges (DMRB) Volume 11). Therefore, atmospheric deposition related to increased use of the major roads inside and within 200m of the SAC, due to policies within the local plan which promote new housing and employment developments, could adversely impact on the integrity of the Humber Estuary SAC. Policy T7p also promotes the delivery, maintenance and improvement of key routes across the area, which could also increase transport and emissions which could adversely impact upon the Humber Estuary SAC through NO_x deposition. This includes some routes in close proximity to the Humber including the Lincolnshire Lakes road, Barton Link Road and access to North Killingholme Airfield. Furthermore, SS8p, SS9p, EC1p, EC5p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point source emissions in the district. In-combination, other plans and strategies	can be made accessible, by sustainable modes of transport, and that they should encourage and promote walking, cycling, public transport, electric and ultra-low emission vehicles, car-sharing and car clubs. In addition, Policy T1p promotes sustainable transport (e.g. walking, cycling) and Policy T2p promotes the improvement of public transport. These policies should minimise any increase in private car use associated with residential and employment site development promoted by the Local Plan. The majority of new vehicles also generally emit fewer emissions than older vehicles as a result of carbon reduction technologies and an increase in demand for more fuel efficient and cost-effective means of car travel. This trend is likely to increase in the future, potentially offsetting the air pollution impacts of increased traffic on the A18, A1077 and A15, the local road network and routes developed/improved under policy T7p. However, in line with Natural England's guidance note on advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Natural England, 2018), any projects promoted under policy T7p that would increase traffic on the roads within 200m of the SAC boundary will need to consider in-combination effects of the increased road traffic, and if there is an in-combination increase of 1000 Annual Average Daily Traffic (AADT) on a road within 200m of the SAC, then an project-level appropriate assessment will be required.	**site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, and specific developments on the South Humber Bank (i.e. Able Logistics Park, Able Marine Energy Park, the North Killingholme Power Project, Humber Gas Pipeline Replacement Project) could lead to in-combination effects related to atmospheric pollution.	Furthermore, in relation to point sources of pollution, policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks, including to air quality. The Council will 'seek to ensure that new development proposals will not have an unacceptable negative impact on air quality. An air quality assessment will be required where a development may result in a significant increase in air pollution, or lead to a significant deterioration in local air quality resulting in unacceptable effects on human health, local amenity and/or the environment'. The measures to avoid/reduce impacts upon the Humber Estuary SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Water Pollution/ Siltation	Policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN6p, WAS2p and T7p all promote development, of a range of types, which have the potential to result in water pollution/siltation, during both construction phases and operationally. This could be through increased wastewater discharges, road run-off and surface water run-off. Pollution could then reach the Humber Estuary via surface water pathways, potentially compromising water quality and the status of the waterbody under the Water Framework Directive. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan,	Despite promoting development, policies SS2p, SS9p, H5p and WAS2p all contain wording which provides a level of protection for the water environment. For example, SS9p requires that a site will only be developed where pollution and waste control measures are implemented and WAS2p requires waste management developments to demonstrate that there will be no harm to water quality and resources. Furthermore, Policy DQE7p requires that developments incorporate SuDS appropriate to the nature of their site and that appropriate pollution control measures are incorporated to help protect water	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, and specific developments on the South Humber Bank (i.e. Able Logistics Park, Able Marine Energy Park, the North Killingholme Power Project, Humber Gas Pipeline Replacement Project) could lead to in-combination effects related to water quality.	quality. Policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks. It states that 'development will not be permitted where it would have an adverse effect on the quality or quantity of groundwater resources or watercourses and waterbodies'. Dependent on the scale, location and nature of development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will likely include assessment of water quality impacts at both the construction and operational stages. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Flood and Water Level	Development (i.e. for housing, employment sites, mineral sites, waste sites and transport	Despite promoting development, policies SS2p, SS7p, SS9p, H5p, EC5p, MIN6p and	**No adverse impact upon**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
	Management	infrastructure), as promoted through policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN6p, WAS2p and T7p, has the potential to increase flooding through increased surface water run-off on impermeable surfaces. The developments may also require additional flood risk management measures to protect them from flooding. If in close proximity to the Humber Estuary SAC, this could result in a direct loss/damage of habitats from the defences themselves, changes to hydrological and geomorphological process and coastal squeeze. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, and specific developments on the South Humber Bank (i.e. Able Logistics Park, Able Marine Energy Park, the North Killingholme Power Project, Humber Gas Pipeline Replacement Project) could lead to in-combination effects related to increased flooding from surface water run-off, or adverse impacts associated with flood risk management measures implemented. Furthermore, in-combination effects may arise with the Humber Flood Risk Management Strategy and the Shoreline Management Plan.	WAS2p all contain wording which provide a level of protection for the water environment and include consideration of flood risk management. For example, SS7p requires the Lincolnshire Lakes development to submit a Flood Risk and Drainage Assessment and in order to meet the minimum acceptable flood risk standard, and specific floor levels are proposed. The incorporation of SuDS is also required. Specifically, policy DQE6p requires that development avoids areas of flood risk and does not increase flooding elsewhere. It also sets clear requirements that developments need to need to meet relating to flood risk management that will allow it to proceed. Policy DQE7p also requires that developments incorporate SuDS appropriate to the nature of their site. Also, in relation to mineral extraction, policy MIN3p requires that mineral extraction developments may only proceed were workings will not increase the potential of flood risk or surface water flooding. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will include assessment of impacts on the water environment and flood risk. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an	**site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
			Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	

7.3.1 Hatfield Moor SAC

The qualifying features, conservation objectives and site vulnerabilities for Hatfield Moor SAC are provided in Table 3-2.

The screening assessment concluded that Hatfield Moor SAC could be at risk from recreational pressures, urbanisation, atmospheric pollution and flood and water level management.

Details for the Appropriate Assessment of the Local Plan Preferred Options and site allocations, both alone and in-combination with other plans and projects on the integrity of Hatfield Moor SAC in relation to the impacts identified in the screening assessment are described in Table 7-2

Table 7-2.

Table 7-2: Test of Adverse Effects on Integrity on Hatfield Moor SAC

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Degraded raised bogs still capable of natural regeneration	Recreational Pressures	Development of new housing as a result of policies within the Local Plan Preferred Options, including policies SS2p, SS6p, SS7p, H1p, H5p and H6p could result in adverse impacts on Hatfield Moor SAC due to increased numbers of visitors. This could cause physical damage to raised bog habitats such as trampling/erosion or disturbance, potentially resulting in changes in species composition and impacting upon species which are essential for the regeneration of this habitat (Pellerin *et al*., 2006). However, there is only one site allocated for residential development within the impact risk zones for Hatfield Moor SSSI (which approximately equates to the SAC area); this is H1P-36p in Wroot. This site is only allocated for 11 dwellings whereas the impact risk zone it falls within identifies that only developments of over 50 dwellings would be considered a significant impact; therefore, impacts from development at H1P-36p alone in terms of increases in visitor numbers would likely be negligible. However, the residential development promoted by the plan will facilitate population growth, which is expected to be around 6% with the largest growth in people over 65 (55.4% growth predicted) (North Lincolnshire Council, 2017). This is the group who have the greatest amount of leisure time, further increasing recreational pressures on the site. Furthermore, a number of policies within the Local Plan promote development of the tourist and recreational sectors. For example, EC7p	Despite promoting residential development, policies SS2p, SS7p and H5p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Policies DQE11p, DQE12p and CSC3p also aim to strengthen the contribution that open space, sport, leisure and recreation facilities make to North Lincolnshire's tourist network and enhance existing facilities. This will reduce the potential for increased recreational pressure on Hatfield Moor SAC by providing alternative facilities. Furthermore, policy CSC3p also specifically states that all new residential developments of 10 dwellings or more (or on sites of 0.5ha or more) will need to provide high-quality open spaces, sport and recreation facilities to meet the needs of additional residents. These alternative spaces should reduce pressures on Hatfield Moor SAC. Under policy H1p, dependent on the scale of residential development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development of each of the sites on the qualifying features will be required, and will be expected to consider changes in recreational pressures and impacts	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		promotes a sustainable visitor economy through development of high quality visitor facilities, CSC5p promotes development of golf courses, CSC15p aims to provide new visitor attractions and CSC17p promotes development of new caravan and camping facilities, all of which could attract more visitors to North Lincolnshire increasing visitor pressure on Hatfield Moor SAC. In-combination, other plans and strategies which promote recreational and tourist developments, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan and the North Lincolnshire Rights of Way Improvement Plan, could lead to a cumulative increase in recreational pressures.	of increased visitor numbers on sensitive habitats. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. For example, the provision of open space and recreational/leisure facilities as part of any development proposed. Policy DQE3p reinforces the need for an Appropriate Assessment for any projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Hatfield Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Urbanisation	A number of policies promote residential, employment, mineral, waste or transport development within North Lincolnshire, including SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. However, no residential sites allocated for development under H1p are located within the boundaries of the designated site, the closest being H1P-36p at Wroot 1.7km away; there will therefore be no direct impacts of habitat loss or physical damage from residential development on the SAC. There are also no sites allocated for employment within the site boundary, and none fall within the Hatfield Moor SSSI impact risk zones. The closest site is EC1-5p Sandtoft Airfield 2.2km away. Indirect impacts of urbanisation, such as	Although they promote a range of development types polices SS2p, SS7p, SS9p, H5p and WAS2p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. For example, H5p will only permit the development of sites to accommodate Gypsies, Travellers and Travelling Showpeople where there are no significant environmental impacts. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Dependent on the scale, location and nature	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		increased recreational pressure, atmospheric pollution and impacts on the water environment are considered elsewhere in this table. As no direct impacts from urbanisation were identified in this assessment there will be zero impact alone and therefore no in-combination assessment. For indirect impacts, the in-combination assessment is undertaken within other sections of this table.	of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Hatfield Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Atmospheric Pollution	APIS (2019) identifies that lowland raised bog habitats are vulnerable to atmospheric nitrogen deposition, especially of ammonia. Although anticipated increases in population during the life of the plan will likely increase the number of vehicles using the local road and motorway network, the Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. H1p does not allocate any areas for residential development within 200m of the SAC boundary and EC1p does not allocate any areas for development of employment sites within 200m. Furthermore, there are no major roads within 200m of the SAC boundary and consequently impacts from reduced air quality associated	In relation to point sources of pollution, policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks, including to air quality. The Council will 'seek to ensure that new development proposals will not have an unacceptable negative impact on air quality. An air quality assessment will be required where a development may result in a significant increase in air pollution, or lead to a significant deterioration in local air quality resulting in unacceptable effects on human health, local amenity and/or the environment'. The measures to avoid/reduce impacts upon Hatfield Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		with increased in traffic from development and population increases promoted by policies in the Local Plan are anticipated to be negligible. Policies SS8p, SS9p, EC1p, MIN1p, MIN5p, MIN6p and WAS2p could however, result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the area. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, could lead to in-combination effects related to atmospheric pollution.	be directly impacted upon.	
	Flood and Water Level Management	Development (i.e. for housing, employment sites, mineral sites, waste sites and transport infrastructure), as promoted through policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN6p, WAS2p and T7p, has the potential to increase flooding through increased surface water run-off on impermeable surfaces. The developments may also require additional flood risk management measures to protect them from flooding. If in close proximity to Hatfield Moor SAC, or in the catchment within which this site sits, it could result in a direct loss/damage of habitats from the defences themselves or changes to hydrogeological process and drainage patterns. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan and Local Transport Plan 2011-16, could lead to in-combination effects related to increased flooding from surface water run-off,	Despite promoting development, policies SS2p, SS7p, SS9p, H5p, MIN6p and WAS2p all contain wording which provide a level of protection for the water environment and include consideration of flood risk management. For example, WAS2p requires that any waste development must demonstrate that it has fully considered flood risk management and drainage before it will be permitted. Specifically, policy DQE6p requires that development avoids areas of flood risk and does not increase flooding elsewhere. It also sets clear requirements that developments need to need to meet relating to flood risk management that will allow it to proceed. Policy DQE7p also requires that developments incorporate SuDS appropriate to the nature of their site. Also, in relation to mineral extraction, policy MIN3p requires that mineral extraction	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		or adverse impacts associated with flood risk management measures implemented. Furthermore, in-combination effects may arise with the Humber Flood Risk Management Strategy.	developments may only proceed were workings will not increase the potential of flood risk or surface water flooding. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will include assessment of impacts on the water environment and flood risk. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Hatfield Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	

7.3.1 Thorne Moor SAC

The qualifying features, conservation objectives and site vulnerabilities for Thorne Moor SAC are provided in Table 3-2.

The screening assessment concluded that Thorne Moor SAC could be at risk from recreational pressures, urbanisation, atmospheric pollution and flood and water level management.

Details for the Appropriate Assessment of the Local Plan Preferred Options and site allocations, both alone and in-combination with other plans and projects on the integrity of Thorne Moor SAC in relation to the impacts identified in the screening assessment are described in Table 7-3.

Table 7-3: Test of Adverse Effects on Integrity on Thorne Moor SAC

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Degraded raised bogs still capable of natural regeneration	Recreational Pressures	Development of new housing as a result of policies within the Local Plan Preferred Options, including policies SS2p, SS6p, SS7p, H1p, H5p and H6p could result in adverse impacts on Thorne Moor SAC due to increased numbers of visitors. This could cause physical damage to raised bog habitats such as trampling/erosion or disturbance, potentially resulting in changes in species composition and impacting upon species which are essential for the regeneration of this habitat (Pellerin *et al*., 2006). There are 7 sites allocated for residential development within the impact risk zones for Thorne, Crowle and Goole Moors SSSI (which approximately equates to the SAC area). These are H1P-19p, H1P-20p and H1P-21p, H1C-41p, H1C-42p, H1C-43p and H1C-44p in Crowle which allocate sites for 101, 57, 20, 8, 9, 7 and 5 dwellings respectively. These sites fall within the impact risk zone which identifies that developments of 50+ residential dwellings could have a significant impact, so adverse impacts from these allocations in terms of recreational pressures could arise. The residential development promoted by the plan will facilitate population growth, which is expected to be around 6% with the largest growth in people over 65 (55.4% growth predicted) (North Lincolnshire Council, 2017). This is the group who have the greatest amount of leisure time, further increasing recreational pressures on the site. Furthermore, a number of policies within the Local Plan promote development of the tourist	Despite promoting residential development, policies SS2p, SS7p and H5p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Policies DQE11p, DQE12p and CSC3p also aim to strengthen the contribution that open space, sport, leisure and recreation facilities make to North Lincolnshire's tourist network and enhance existing facilities. This will reduce the potential for increased recreational pressure on Thorne Moor SAC by providing alternative facilities. Furthermore, policy CSC3p also specifically states that all new residential developments of 10 dwellings or more (or on sites of 0.5ha or more) will need to provide high-quality open spaces, sport and recreation facilities to meet the needs of additional residents. These alternative spaces should reduce pressures on Thorne Moor SAC. Under policy H1p, dependent on the scale of residential development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development of each of the sites on the qualifying features will be required, and will be expected to consider changes in recreational pressures and	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		and recreational sectors. For example, EC7p promotes a sustainable visitor economy through development of high quality visitor facilities, CSC5p promotes development of golf courses, CSC15p aims to provide new visitor attractions and CSC17p promotes development of new caravan and camping facilities, all of which could attract more visitors to North Lincolnshire increasing visitor pressure on Thorne Moor SAC. In-combination, other plans and strategies which promote recreational and tourist developments, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan and the North Lincolnshire Rights of Way Improvement Plan, could lead to a cumulative increase in recreational pressures.	impacts of increased visitor numbers on sensitive habitats. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. For example, the provision of open space and recreational/leisure facilities as part of any development proposed. Policy DQE3p reinforces the need for an Appropriate Assessment for any projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Thorne Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Urbanisation	A number of policies promote residential, employment, mineral, waste or transport development within North Lincolnshire, including SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. However, no residential sites allocated for development under H1p are located within the boundaries of the designated site, the closest being H1C-42p in Crowle 1,4km away; there will therefore be no direct impacts of habitat loss or physical damage from residential development on the SAC. There are also no sites allocated for employment within the site boundary, and none fall within the Thorne, Crowle and Goole Moors SSSI impact risk zones. The closest site is EC1p Ealand 3.8km	Although they promote a range of development types polices SS2p, SS7p, SS9p, H5p and WAS2p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. For example, H5p will only permit the development of sites to accommodate Gypsies, Travellers and Travelling Showpeople where there are no significant environmental impacts. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		away. Indirect impacts of urbanisation, such as increased recreational pressure, atmospheric pollution and impacts on the water environment are considered elsewhere in this table. As no direct impacts from urbanisation were identified in this assessment there will be zero impact alone and therefore no in-combination assessment. For indirect impacts, the in-combination assessment is undertaken within other sections of this table.	importance'. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Thorne Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Atmospheric Pollution	APIS (2019) identifies that lowland raised bog habitats are vulnerable to atmospheric nitrogen deposition, especially of ammonia. Although anticipated increases in population during the life of the plan will likely increase the number of vehicles using the local road and motorway network, the Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from the source and can be expected to fall to background levels at more than 200m. H1p does not allocate any areas for residential development within 200m of the SAC boundary and EC1p does not allocate any areas for development of employment sites within 200m.	In relation to point sources of pollution, policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks, including to air quality. The Council will 'seek to ensure that new development proposals will not have an unacceptable negative impact on air quality. An air quality assessment will be required where a development may result in a significant increase in air pollution, or lead to a significant deterioration in local air quality resulting in unacceptable effects on human health, local amenity and/or the	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		Furthermore, there are no major roads within 200m of the SAC boundary and consequently impacts from reduced air quality associated with increased in traffic from development and population increases promoted by policies in the Local Plan are anticipated to be negligible. Policies SS8p, SS9p, EC1p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could lead to additional point sources in the area. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, could lead to in-combination effects related to atmospheric pollution.	environment'. The measures to avoid/reduce impacts upon Thorne Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Flood and Water Level Management	Development (i.e. for housing, employment sites, mineral sites, waste sites and transport infrastructure), as promoted through policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN6p, WAS2p and T7p, has the potential to increase flooding through increased surface water run-off on impermeable surfaces. The developments may also require additional flood risk management measures to protect them from flooding. If in close proximity to Thorne Moor SAC, or in the catchment within which this site sits, it could result in a direct loss/damage of habitats from the defences themselves or changes to hydrogeological process and drainage patterns. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan and Local Transport Plan 2011-16, could lead to in-	Despite promoting development, policies SS2p, SS7p, SS9p, H5p, MIN6p and WAS2p all contain wording which provide a level of protection for the water environment and include consideration of flood risk management. For example, WAS2p requires that any waste development must demonstrate that it has fully considered flood risk management and drainage before it will be permitted. Specifically, policy DQE6p requires that development avoids areas of flood risk and does not increase flooding elsewhere. It also sets clear requirements that developments need to need to meet relating to flood risk management that will allow it to proceed. Policy DQE7p also requires that developments incorporate SuDS appropriate to the nature of their site.	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		combination effects related to increased flooding from surface water run-off, or adverse impacts associated with flood risk management measures implemented. Furthermore, in-combination effects may arise with the Humber Flood Risk Management Strategy.	Also, in relation to mineral extraction, policy MIN3p requires that mineral extraction developments may only proceed were workings will not increase the potential of flood risk or surface water flooding. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will include assessment of impacts on the water environment and flood risk. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Thorne Moor SAC can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	

7.3.1 The Humber Estuary SPA

The qualifying features, conservation objectives and site vulnerabilities for the Humber Estuary SPA are provided in Table 3-2.

The screening assessment concluded that the Humber Estuary SPA could be at risk from recreational pressures, urbanisation, atmospheric pollution, water pollution/siltation and flood and water level management.

Details for the Appropriate Assessment of the Local Plan Preferred Options and site allocations, both alone and in-combination with other plans and projects on the integrity of the Humber Estuary SPA in relation to the impacts identified in the screening assessment are described in Table 7-4.

Table 7-4: Test of Adverse Effects on Integrity on the Humber Estuary SPA

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Article 4.1 – site is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season: Avocet *Recurvirostra avosetta* (breeding and wintering) Bittern *Botaurus stellaris* (breeding and wintering) Hen Harrier *Circus cyaneus* (wintering) Golden Plover *Pluvialis apicaria* (wintering) Bar-tailed Godwit *Limosa lapponica* (wintering) Ruff *Philomachus pugnax* (passage) Marsh Harrier *Circus aeruginosus* (breeding) Little Tern *Sterna albifrons* (breeding) Article 4.2 – site is used regularly by	Recreational Pressures	Development of new housing as a result of policies within the Local Plan Preferred Options, including policies SS2p, SS6p, SS7p, H1p, H5p and H6p, could result in adverse impacts on the Humber Estuary SPA due to increased numbers of visitors, which could result in increased disturbance of the bird populations using the estuary (i.e. noise and visual disturbance causing flight responses). Damage to habitats supporting the important bird populations could also occur from trampling, litter, vandalism etc. In particular, policy H1p allocates 39 sites, with 5490 dwellings, for residential development within 4.42km of the estuary (see Table 6-3). Fearnley *et al.* (2012) identifies this distance as being that within which 88% of visitors to the Humber Estuary will travel and it is therefore considered that residential development within this zone could result in a significant increase in visitor pressures to the site. This residential development will facilitate population growth, which is expected to be around 6% over the lifetime of the plan with the largest growth in people over 65 (55.4% growth is predicted) (North Lincolnshire Council, 2017). This group often have the greatest amount of leisure time, further increasing recreational pressures on the site. Furthermore, a number of policies within the Local Plan promote development of the tourist and recreational sectors. For example, EC7p promotes a sustainable visitor economy through development of high quality visitor facilities, CSC5p promotes development of golf courses,	Despite promoting residential development, policies SS2p, SS7p and H5p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Policies DQE11p, DQE12p and CSC3p also aim to strengthen the contribution that open space, sport, leisure and recreation facilities make to North Lincolnshire's tourist network and enhance existing facilities. This will reduce the potential for increased recreational pressure on the Humber Estuary SPA by providing alternative facilities. Furthermore, policy CSC3p states that all new residential developments of 10 dwellings or more (or on sites of 0.5ha or more) will need to provide high-quality open spaces, sport and recreation facilities to meet the needs of additional residents. These new open spaces and recreational facilities will provide alternative attractions in North Lincolnshire, thereby reducing visitor pressure on the SPA. Under policy H1p, dependent on the scale	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season: Shelduck *Tadorna tadorna* (wintering) Knot *Calidris canutus* (wintering and passage) Dunlin *Calidris alpina* (wintering) Black-tailed Godwit *Limosa limosa* (wintering and passage) Redshank *Tringa totanus* (wintering and passage) Article 4.2 – site is used regularly by over 20,000 waterbirds		CSC6p promotes development of water-based recreation (including on the River Humber), CSC15p aims to provide new visitor attractions and CSC17p promotes development of new caravan and camping facilities, all of which could attract more visitors to North Lincolnshire increasing visitor pressure on the Humber Estuary SPA. In-combination, other plans and strategies which promote recreational and tourist developments, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, the North Lincolnshire Rights of Way Improvement pan and the England Coast Path strategy could lead to a cumulative increase in recreational pressures.	of residential development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development of each of the allocated sites will be required, and will be expected to consider changes in recreational pressures and impacts of increased visitor numbers on sensitive habitats. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. For example, the provision of open space and recreational/leisure facilities as part of any development proposed. Policy DQE3p reinforces the need for an Appropriate Assessment for any projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Urbanisation	A number of policies promote residential, employment, mineral, waste or transport development within North Lincolnshire, including SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. However, no residential sites allocated for development under H1p are located within the boundaries of the SAC, the closest being H1C-56p at Keadby	Although they promote a range of development types polices SS2p, SS7p, SS9p, H5p, EC5p and WAS2p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. For example, SS9p specifically states that any	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		which is 300m from the site boundary; there will therefore be no direct impacts on the Humber Estuary SPA from loss or physical damage of habitats which support the notable bird populations arising from policies in the Local Plan. However, there are two employment site allocations under policy EC1p, at Flixborough and New Holland, and also SS9-1p on the South Humber Bank that fall slightly within, or directly abut, the SPA boundary. Direct habitat loss or physical damage could therefore arise, along with disturbance of bird populations during both construction and operational phases. Indirect impacts of urbanisation, such as increased recreational pressure, atmospheric pollution and impacts on the water environment are considered elsewhere in this table. In-combination effects could occur with other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan and the Greater Lincolnshire Strategic Economic Plan. Specifically, in the North Killingholme area impacts from the Able Logistics Park, Able Marine Energy Park and the North Killingholme Power Project could act in-combination sites allocated under the Local Plan, including SS9-1p South Humber Bank and SS8-2p North Killingholme Airfield.	development on the South Humber Bank shall give appropriate consideration to internationally protected nature conservation sites and must comply with the requirements of the Habitats and Birds Directive, and specifically for this policy the South Humber Bank mitigation strategy which provides for compensatory habitat creation, including at Halton Marshes which also already been constructed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Dependent on the scale, location and nature of development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SPA can be guaranteed because they are	

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
			incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Atmospheric Pollution	APIS (2019) identifies that a number of the habitats associated with the bird species for which the site qualifies as a SPA are potentially sensitive to eutrophication and/or acidification as a result of air pollution. This could potentially impact on community structure and then food sources for the bird populations. There are a number of major roads in close proximity to the Humber Estuary SPA, which is unsurprising given the substantial size of the designated site. This includes the A18 (bounds the site at Keadby Bridge), A1077 (located on the site boundary at South Ferriby) and A15 (crosses the site via the Humber Bridge). Pollutant levels can be expected to fall substantially at a distance of more than 50m from the source and can fall to background levels at a distance of more than 200m (Design Manual for Roads and Bridges (DMRB) Volume 11). Therefore, atmospheric deposition related to increased use of the major roads inside and within 200m of the SPA, due to policies within the local plan which promote new housing and employment developments, could adversely impact on the integrity of the Humber Estuary SPA. Policy T7p also promotes the delivery, maintenance and improvement of key routes across the area, which could also increase transport and emissions which could adversely impact upon the Humber Estuary SPA through NO_x deposition. This includes some routes in close proximity to the Humber including the Lincolnshire Lakes road, Barton Link Road and access to North Killingholme Airfield. Furthermore, SS8p, SS9p, EC1p, EC5p, MIN1p,	Policy T3p states that new development will be supported where it is accessible, or can be made accessible, by sustainable modes of transport, and that they should encourage and promote walking, cycling, public transport, electric and ultra-low emission vehicles, car-sharing and car clubs. In addition, Policy T1p promotes sustainable transport (e.g. walking, cycling) and Policy T2p promotes the improvement of public transport. These policies should minimise any increase in private car use associated with residential and employment site development promoted by the Local Plan. The majority of new vehicles also generally emit fewer emissions than older vehicles as a result of carbon reduction technologies and an increase in demand for more fuel efficient and cost-effective means of car travel. This trend is likely to increase in the future, potentially offsetting the air pollution impacts of increased traffic on the A18, A1077 and A15, the local road network and routes developed/improved under policy T7p. However, in line with Natural England's guidance note on advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Natural England, 2018), any projects promoted under policy T7p that would increase traffic on the roads within 200m of the SAC boundary will need to consider in-combination effects of the	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could also lead to additional point sources in the district. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, and specific developments on the South Humber Bank (i.e. Able Logistics Park, Able Marine Energy Park, the North Killingholme Power Project, Humber Gas Pipeline Replacement Project) could lead to in-combination effects related to atmospheric pollution.	increased road traffic, and if there is an in-combination increased of 1000AADT on a road within 200m of the SAC, then an project-level appropriate assessment will be required. Furthermore, in relation to point sources of pollution, policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks, including to air quality. The Council will 'seek to ensure that new development proposals will not have an unacceptable negative impact on air quality. An air quality assessment will be required where a development may result in a significant increase in air pollution, or lead to a significant deterioration in local air quality resulting in unacceptable effects on human health, local amenity and/or the environment'. The measures to avoid/reduce impacts upon the Humber Estuary SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Water Pollution/ Siltation	Policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN6p, WAS2p and T7p all promote development, of a range of types, which have the potential to result in water pollution/siltation, during both construction phases and operationally. This could be through increased wastewater discharges, road run-off and surface water run-off. This could then reach the Humber Estuary via surface water pathways potentially compromising water quality and impacting upon	Despite promoting development, policies SS2p, SS9p, H5p and WAS2p all contain wording which provides a level of protection for the water environment. For example, SS9p requires that a site will only be developed where pollution and waste control measures are implemented and WAS2p requires waste management developments to demonstrate that there will be no harm to water quality and resources.	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		food supplies of the bird populations using the estuary, or the habitats that support them. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, and specific developments on the South Humber Bank (i.e. Able Logistics Park, Able Marine Energy Park, the North Killingholme Power Project, Humber Gas Pipeline Replacement Project) could lead to in-combination effects related to water quality.	Furthermore, Policy DQE7p requires that developments incorporate SuDS appropriate to the nature of their site and that appropriate pollution control measures are incorporated to help protect water quality. Policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks. It states that 'development will not be permitted where it would have an adverse effect on the quality or quantity of groundwater resources or watercourses and waterbodies'. Dependent on the scale, location and nature of development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will likely include assessment of water quality impacts at both the construction and operational stages. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SPA can be	

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
			guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Flood and Water Level Management	Development (i.e. for housing, employment sites, mineral sites, waste sites and transport infrastructure), as promoted through policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, EC5p, RD1p, MIN6p, WAS2p and T7p, has the potential to increase flooding through increased surface water run-off on impermeable surfaces. The developments may also require additional flood risk management measures to protect them from flooding. If in close proximity to the Humber Estuary SPA, this could result in a direct loss/damage of habitats from the defences themselves, changes to hydrological and geomorphological process and coastal squeeze. This could all impact upon the food sources and habitats that support the bird species for which the site is designated an SPA. Furthermore, any construction of flood defences could result in disturbance to bird populations. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, and specific developments on the South Humber Bank (i.e. Able Logistics Park, Able Marine Energy Park, the North Killingholme Power Project, Humber Gas Pipeline Replacement Project) could lead to in-combination effects related to increased flooding from surface water run-off, or adverse impacts associated with flood risk management measures implemented. Furthermore, in-combination effects may arise with the Humber Flood Risk Management Strategy and the	Despite promoting development, policies SS2p, SS7p, SS9p, H5p, EC5p, MIN6p and WAS2p all contain wording which provide a level of protection for the water environment and include consideration of flood risk management. For example, SS7p requires the Lincolnshire Lakes development to submit a Flood Risk and Drainage Assessment and in order to meet the minimum acceptable flood risk standard, and specific floor levels are proposed. The incorporation of SuDS is also required. Specifically, policy DQE6p requires that development avoids areas of flood risk and does not increase flooding elsewhere. It also sets clear requirements that developments need to need to meet relating to flood risk management that will allow it to proceed. Policy DQE7p also requires that developments incorporate SuDS appropriate to the nature of their site. Also, in relation to mineral extraction, policy MIN3p requires that mineral extraction developments may only proceed were workings will not increase the potential of flood risk or surface water flooding. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will	**No adverse impact upon site integrity**

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		Shoreline Management Plan.	include assessment of impacts on the water environment and flood risk. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon the Humber Estuary SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	

7.3.1 Thorne and Hatfield Moors SPA

The qualifying features, conservation objectives and site vulnerabilities for Thorne and Hatfield Moors SPA are provided in Table 3-2.

The screening assessment concluded that Thorne and Hatfield Moors SPA could be at risk from recreational pressures, urbanisation, atmospheric pollution and flood and water level management.

Details for the Appropriate Assessment of the Local Plan Preferred Options and site allocations, both alone and in-combination with other plans and projects on the integrity of Thorne and Hatfield Moors SPA in relation to the impacts identified in the screening assessment are described in Table 7-5.

Table 7-5: Test of Adverse Effects on Integrity on Thorne and Hatfield Moors SPA

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Article 4.1 – site supports a breeding population of Nightjar which is of European importance	Recreational Pressures	Development of new housing as a result of policies within the Local Plan Preferred Options, including policies SS2p, SS6p, SS7p, H1p, H5p and H6p could result in adverse impacts on Thorne and Hatfield Moors SPA due to increased numbers of visitors. This could result in disturbance to the Nightjar population for which the site is designated. In relation to Hatfield Moor there is only site allocated for residential development within the impact risk zones for Hatfield Moor SSSI (which approximately equates to this component of the SPA); this is H1P-36p in Wroot. However, this site is only allocated for 11 dwellings whereas the impact risk zone it falls within identifies that only developments of over 50 dwellings would be considered a significant impact; therefore, impacts from development at H1P-36p alone in terms of increases in visitor numbers would likely be negligible. In relation to Thorne Moor, there are 7 sites allocated for residential development within the impact risk zones for Thorne, Crowle and Goole Moors SSSI (which approximately equates to this component of the SPA). These are H1P-19p, H1P-20p, H1P-21p, H1C-41p, H1C-42p, H1C-43p and H1C-44p in Crowle which allocate sites for 101, 57, 20, 8. 9, 7 and 5 dwellings respectively. These sites fall within the impact risk zone which identifies that developments of 50+ residential dwellings could have a significant impact, so adverse impacts from these allocations in terms of recreational pressures could arise. The residential development promoted by the plan will facilitate population growth, which is expected to	Despite promoting residential development, policies SS2p, SS7p and H5p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species and sites of international, national and local importance'. Policies DQE11p, DQE12p and CSC3p also aim to strengthen the contribution that open space, sport, leisure and recreation facilities make to North Lincolnshire's tourist network and enhance existing facilities. This will reduce the potential for increased recreational pressure on Thorne and Hatfield Moors SPA by providing alternative facilities. Furthermore, policy CSC3p also specifically states that all new residential developments of 10 dwellings or more (or on sites of 0.5ha or more) will need to provide high-quality open spaces, sport and recreation facilities to meet the needs of additional residents. These alternative spaces should reduce pressures on Thorne and Hatfield Moors SPA. Under policy H1p, dependent on the scale of residential development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development of each of the sites on the qualifying features will be required, and will be expected to consider changes in recreational pressures and	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		be around 6% with the largest growth in people over 65 (55.4% growth predicted) (North Lincolnshire Council, 2017). This is the group who have the greatest amount of leisure time, further increasing recreational pressures on the site. Furthermore, a number of policies within the Local Plan promote development of the tourist and recreational sectors. For example, EC7p promotes a sustainable visitor economy through development of high quality visitor facilities, CSC5p promotes development of golf courses, CSC15p aims to provide new visitor attractions and CSC17p promotes development of new caravan and camping facilities, all of which could attract more visitors to North Lincolnshire increasing visitor pressure on Thorne and Hatfield Moors SPA. In-combination, other plans and strategies which promote recreational and tourist developments, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan and the North Lincolnshire Rights of Way Improvement Plan, could lead to a cumulative increase in recreational pressures.	impacts of increased visitor numbers on sensitive habitats. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. For example, the provision of open space and recreational/leisure facilities as part of any development proposed. Policy DQE3p reinforces the need for an Appropriate Assessment for any projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Thorne and Hatfield Moors SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Urbanisation	A number of policies promote residential, employment, mineral, waste or transport development within North Lincolnshire, including SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN1p, MIN5p, MIN6p, WAS2p and T7p. However, no residential sites allocated for development under H1p are located within the boundaries of the designated site, the closest to Hatfield Moor being H1P-36p at Wroot 1.7km away and the closest to Thorne Moor being H1C-42p in Crowle 1.4km away; there will therefore be no direct impacts of habitat loss or physical damage from residential development on the SPA. There are also no sites allocated for employment within the site boundary, and none fall within the	Although they promote a range of development types polices SS2p, SS7p, SS9p, H5p and WAS2p all contain wording which provides a level of protection for the natural environment by stating that developments will have to consider the specific impact on biodiversity before they can proceed. For example, H5p will only permit the development of sites to accommodate Gypsies, Travellers and Travelling Showpeople where there are no significant environmental impacts. Furthermore, policy DQE3p specifically states that all schemes shall 'protect, manage and enhance the network of habitats, species	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		Hatfield Moor SSSI or Thorn Moor SSSI impact risk zones. The closest site to Hatfield Moor is EC1-5p Sandtoft Airfield 2.2km away and the closest site to Thorne Moor is EC1p Ealand, 3.8km away. Indirect impacts of urbanisation, such as increased recreational pressure, atmospheric pollution and impacts on the water environment are considered elsewhere in this table. As no direct impacts from urbanisation were identified in this assessment there will be zero impact alone and therefore no in-combination assessment. For indirect impacts, the in-combination assessment is undertaken within other sections of this table.	and sites of international, national and local importance'. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Thorne and Hatfield Moor SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Atmospheric Pollution	APIS (2019) identifies that habitats that support Nightjar, including dwarf shrub heath and coniferous woodland are vulnerable to eutrophication and acidification associated with atmospheric pollution. This can result in changes to community composition, altered soil function, toxicity to plants and declines in bryophyte and lichen populations and tree health. Although anticipated increases in population during the life of the plan will likely increase the number of vehicles using the local road and motorway network, the Highways Agency (2009) reports that pollutant levels can be expected to fall substantially at a distance less than 50m from	In relation to point sources of pollution, policy DM3p requires that development proposals demonstrate that environmental risks have been evaluated and appropriate measures have been taken to minimise risks, including to air quality. The Council will 'seek to ensure that new development proposals will not have an unacceptable negative impact on air quality. An air quality assessment will be required where a development may result in a significant increase in air pollution, or lead to a significant deterioration in local air quality	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		the source and can be expected to fall to background levels at more than 200m. H1p does not allocate any areas for residential development within 200m of the SPA boundary and EC1p does not allocate any areas for development of employment sites within 200m. Furthermore, there are no major roads within 200m of the SPA boundary and consequently impacts from reduced air quality associated with increased in traffic from development and population increases promoted by policies in the Local Plan are anticipated to be negligible. Policies SS8p, SS9p, EC1p, MIN1p, MIN5p, MIN6p and WAS2p could result in the development of employment sites, mineral developments and waste management sites that could lead to additional point source emissions in the catchment. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan, Local Transport Plan 2011-16, could lead to in-combination effects related to atmospheric pollution.	resulting in unacceptable effects on human health, local amenity and/or the environment'. The measures to avoid/reduce impacts upon Thorne and Hatfield Moor SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	
	Flood and Water Level Management	Development (i.e. for housing, employment sites, mineral sites, waste sites and transport infrastructure), as promoted through policies SS2p, SS6p, SS7p, SS8p, SS9p, H1p, H5p, H6p, EC1p, RD1p, MIN6p, WAS2p and T7p, has the potential to increase flooding through increased surface water run-off on impermeable surfaces. The developments may also require additional flood risk management measures to protect them from flooding. If in close proximity to Thorne and Hatfield Moors SPA, or in the catchment within which this site sits, it could result in a direct loss/damage of habitats from the defences themselves or changes to hydrogeological process and drainage patterns; this could then impact upon the Nightjar populations the habitats	Despite promoting development, policies SS2p, SS7p, SS9p, H5p, MIN6p and WAS2p all contain wording which provide a level of protection for the water environment and include consideration of flood risk management. For example, H5p will only permit the development of sites to accommodate Gypsies, Travellers and Travelling Showpeople where there are no significant environmental impacts. Specifically, policy DQE6p requires that development avoids areas of flood risk and does not increase flooding elsewhere. It also sets clear requirements that developments need to need to meet relating to flood risk	**No adverse impact upon site integrity**

Qualifying Feature	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
		present support.. In-combination, other plans and strategies which promote any form of development, including the Humber Strategic Economic Plan, the Greater Lincolnshire Strategic Economic Plan and Local Transport Plan 2011-16, could lead to in-combination effects related to increased flooding from surface water run-off, or adverse impacts associated with flood risk management measures implemented. Furthermore, in-combination effects may arise with the Humber Flood Risk Management Strategy.	management that will allow it to proceed. Policy DQE7p also requires that developments incorporate SuDS appropriate to the nature of their site. Also, in relation to mineral extraction, policy MIN3p requires that mineral extraction developments may only proceed were workings will not increase the potential of flood risk or surface water flooding. Dependent on the scale, location and nature of the development proposed, it is likely that a project level HRA of the direct and indirect impacts of the development will be required; this will include assessment of impacts on the water environment and flood risk. Where impacts cannot be avoided, appropriate mitigation will be required to ensure no adverse effects on the integrity of the site. Policy DQE3p reinforces the need for an Appropriate Assessment for any specific projects, not connected to the management of an international nature conservation site, if they are likely to have a significant effect upon them. This assessment will need to consider potential in-combination impacts identified in this assessment, along with any others that may arise. The measures to avoid/reduce impacts upon Thorne and Hatfield Moors SPA can be guaranteed because they are incorporated directly into the Local Plan, meaning that any planning decisions will be directly impacted upon.	

7.3.1 The Humber Estuary Ramsar

The qualifying features, conservation objectives and site vulnerabilities for the Humber Estuary Ramsar are provided in Table 3-2.

The screening assessment concluded that the Humber Estuary Ramsar could be at risk from recreational pressures, urbanisation, atmospheric pollution, water pollution/siltation and flood and water level management. The qualifying criteria of Grey Seal and Natterjack Toad were screened out of the assessment as the known breeding colony of Grey Sea is located over 30km away from the district boundary at Donna Nook, and the known population of Natterjack Toad over 35km away at Saltfleetby and Theddlethorpe dunes.

Details for the Appropriate Assessment of the Local Plan Preferred Options and site allocations, both alone and in-combination with other plans and projects on the integrity of the Humber Estuary Ramsar in relation to the impacts identified in the screening assessment are described in Table 7-6.

Table 7-6: Test of Adverse Effects on Integrity on Humber Estuary Ramsar

Qualifying Features	Identified Pathway of Impact	Adverse Effect of North Lincolnshire Local Plan Alone and In-combination	Avoidance/Mitigation Measures of North Lincolnshire Local Plan	Adverse Impact on Site Integrity
Ramsar Criterion 1 – near-natural estuary with range of habitats Ramsar Criterion 5 – regularly supports 20,000 or more waterbirds Ramsar Criterion 6 – supports a number of species at levels of international importance on passage (i.e. Golden Plover, Red Knot, Dunlin, Black-tailed Godwit and Common Redshank) and over-winter (i.e. Common Shelduck, Golden Plover, Red Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Common Redshank) Ramsar Criterion 8 – important migration route for River Lamprey and Sea Lamprey	Recreational Pressures	The assessments contained in Table 7-1 and Table 7-4 are also relevant to the Humber Estuary Ramsar.		**No adverse impact upon site integrity**
	Urbanisation	The assessments contained in Table 7-1 and Table 7-4 are also relevant to the Humber Estuary Ramsar.		**No adverse impact upon site integrity**
	Atmospheric Pollution	The assessments contained in Table 7-1 and Table 7-4 are also relevant to the Humber Estuary Ramsar.		**No adverse impact upon site integrity**
	Water Pollution/ Siltation	The assessments contained in Table 7-1 and Table 7-4 are also relevant to the Humber Estuary Ramsar.		**No adverse impact upon site integrity**
	Flood and Water Level Management	The assessments contained in Table 7-1 and Table 7-4 are also relevant to the Humber Estuary Ramsar.		**No adverse impact upon site integrity**

8 Conclusions

Regulation 105 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') states that if a land-use plan is "(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and (b) is not directly connected with or necessary to the management of the site" then the plan-making authority must "…make an appropriate assessment of the implications for the site in view of that site's conservation objectives" before the plan is given effect. The process by which Regulation 105 is met is known as Habitats Regulations Assessment (HRA).

It is accepted best-practice for the HRA of strategic planning documents to be run as an iterative process alongside the plan development, with the emerging policies and sites proposed for development continually assessed for their possible effects on international nature conservation sites and modified or abandoned (as necessary) to ensure that the subsequently adopted plan is not likely to result in significant effects on any international nature conservation sites, either alone or 'in combination' with other plans and projects.

HRA has been undertaken throughout the development of the North Lincolnshire Local Plan to date and has informed key stages and assessment work, including the selection of sites proposed for development. This report details the HRA for the Preferred Options and Site Allocations of the North Lincolnshire Local Plan.

The most likely effects of the North Lincolnshire Local Plan Preferred Options and Site Allocations on international nature conservation sites are related to pressures from new development including recreational impacts, indirect impacts from urbanisation, atmospheric pollution, changes to water quality (surface run-off, pollution events) and impacts from flood and water level management.

The Screening Assessment determined that the North Lincolnshire Local Plan Preferred Options and Site Allocations is not likely to have significant effects, either alone or in-combination with other plans on the following international nature conservation site:

- River Derwent SAC

Potential significant effects of the North Lincolnshire Local Plan Preferred Options and Site Allocations were identified for the following sites:

- Humber Estuary SAC
- Hatfield Moor SAC
- Thorne Moors SAC
- Humber Estuary SPA
- Thorne and Hatfield Moors SPA
- Humber Estuary Ramsar

The Appropriate Assessment identified that the existing policies and provisions in the of the North Lincolnshire Local Plan Preferred Options and Site Allocations, in relation to recreational pressures, urbanisation, atmospheric pollution, water pollution/siltation and flood and water management will ensure that the Local Plan will have no adverse effects on these international nature conservation sites.

Appendices

A Review of Other Plans and Projects that could act In-combination with the North Lincolnshire Local Plan

Document	Description of Plan/Project	Potential In-combination effects on international nature conservation sites
Land Use Planning		
Lincolnshire Lakes	This project will create a number of high quality, sustainable village communities on land between the western edge of Scunthorpe and the River Trent, set within an attractive waterside environment with major opportunities for leisure, sport and recreation. It will also provide an ideal setting for new businesses with the creation of new high-quality employment space and a Business Park. The Lincolnshire Lakes Area Action Plan (AAP) has been produced to set the planning policy framework to deliver the development in a properly planned way and this was adopted in May 2016.	The HRA produced for the Lincolnshire Lakes AAP identified that adverse impacts could arise on the Humber Estuary SAC/SPA/Ramsar Site through urbanisation, recreational disturbance, air pollution and loss of supporting habitat. However, the HRA concluded that the Lincolnshire Lakes AAP would not have likely significant effects on the Humber, either alone or in-combination with other plans and projects. This is the case so long as any expansion to the allocated developed land was further assessed in an updated HRA, any future expansion of Scunthorpe Port was subject to a project-specific HRA and that raising the right bank of the River Trent would adhere to standard water quality controls and would be undertaken outside of the wintering bird season. Also, the Lincolnshire Lakes proposals are included within the North Lincolnshire Local Plan Preferred Options and site allocations within policy SS7p and site allocations SS8-3p, SSH1p and SSH2p. Consequently, the findings of the HRA for the Lincolnshire Lakes AAP will be used to inform the HRA for the Local Plan itself.
Draft Bassetlaw Local Plan	Bassetlaw District Council is in currently preparing the Bassetlaw Local Plan, which is planned for adoption in February 2021. The new Local Plan for Bassetlaw will establish the long-term approach to development in the District up to the year 2034.	A HRA screening assessment was produced for the draft Local Plan in 2019, which concluded that the policies and site allocations in the Plan would not, either alone or in-combination, result in likely significant effects on Hatfield Moor SAC, Thorne Moor SAC and Thorne and Hatfield Moor SPA. The potential for likely significant effects is limited to the Sherwood Forest Proposed Potential SPA (ppSPA), which is not identified as being potentially impacted upon by the North Lincolnshire Local Plan; consequently, no in-combination effects have been identified.
Doncaster Local Plan 2015-2035	The Doncaster Local Plan will replace the adopted Unitary Development Plan and Local Development Framework. The publication version of the local plan, ready for examination by the Government, has just been released. The Plan will provide the new planning strategy for the Borough and will provide a comprehensive	A HRA for the publication version of the Doncaster Local Plan is not currently available. However, the Sustainability Appraisal, informed by a HRA, summarised that the HRA process screened each of the housing, employment and minerals sites within the Local Plan document to determine if there is a likely significant effect on the international nature conservation sites at Thorne Moors, Hatfield Moors, Lower Derwent Valley, River Derwent and Humber Estuary. The HRA has considered the potential impact on such sites due to an increased demand for water, greater levels of waste water being

Document	Description of Plan/Project	Potential In-combination effects on international nature conservation sites
	statement of the Borough's most important planning policies. It will set out detailed development management policies to guide new development in the Borough.	created as a result of development, increased numbers of visitors, pet predation, loss of foraging habitats, air pollution, growth of the airport, and, hydrological impacts of mineral extraction. In summary there were no site allocations that were identified as having significant negative effects that could not be mitigated through policies contained in the Local Plan; consequently, no in-combination effects have been identified with the North Lincolnshire Local Plan.
East Riding Local Plan	This is a suite of adopted planning documents that together provide the long-term development plan for the East Riding till 2029. A number of documents make up the plan including, the strategy document, the allocations document and the Bridlington Town Centre Area Action Plan.	The HRA for the strategy document and allocation plan reached similar conclusions that land allocated for development at Hedon Haven would result in the loss of functional habitat used by birds from the adjacent Humber Estuary international nature conservation site, however, mitigation measures including enhancement of habitat at Newton Garth and Hedon Haven will provide alternative wet grassland sites which will compensate for the loss of habitat, resulting in a conclusion of no impact on site integrity. In relation to Thorne and Hatfield Moors for both the strategy document and allocations document, screened the SACs and SPA out of the HRA Stage 2 assessment for the as the East Riding Local Plan as it was assessed as having no likely significant effect upon them. Consequently, in-combination effects with the North Lincolnshire Local Plan are identified. Given the distance between North Lincolnshire and Bridlington it is not considered that the Area Action Plan for this town centre would have in-combination effects with the North Lincolnshire Local Plan.
Hull Local Plan 2017-2032	Hull City Council adopted its Local Plan in November 2017. It identifies land for different uses and its policies will be used to determine planning applications for the period 2017 to 2032.	The HRA screening for the adopted plan and its main modifications concluded that a number of policies and site allocations within the Local Plan could impact upon the Humber Estuary SAC, SPA and Ramsar due to the distance involved and/or connectivity between the Local Plan proposals and site boundary. Potential effects could arise from habitat fragmentation, disturbance, changes to hydrological regime, changes to water quality and changes to air quality; consequently, the Plan required undertaking of an Appropriate Assessment. The Appropriate Assessment concluded that with mitigation, adverse effects from the policies and site allocations, including in-combination effects between plans and projects can be avoided for all designated sites. This does not preclude the need for HRA to be applied on a project level basis to those developments e.g. the cruise terminal with the potential to impact upon any interest feature of a designated site. Consequently, no in-combination effects have been identified with the North Lincolnshire Local Plan, although the importance of the mitigation being applied to prevent an adverse

Document	Description of Plan/Project	Potential In-combination effects on international nature conservation sites
		impact on site integrity is recognised.
North East Lincolnshire Local Plan	The Local Plan for North East Lincolnshire sets out the vision and objectives for the Borough, allocates sites for housing, employment and other forms of development and sets out development management policies for the Borough. Following public examination during April/May 2017 the plan was formally adopted on the 22nd March 2018.	The HRA produced for the pre-submission draft of the North East Lincolnshire Local Plan concluded that adverse impacts would not arise on international nature conservation sites in and around the local authority area, so long as mitigation was implemented. Mitigation measures included modifying/strengthening policy text so that adverse impacts could be avoided, undertaking project-specific HRAs as developments came forward, following good practice construction techniques, promoting sustainable transport methods and improving green infrastructure/open spaces, amongst others. Consequently, no in-combination effects have been identified with the North Lincolnshire Local Plan.
Central Lincolnshire Local Plan	The West Lindsey Local Plan (First Review) was adopted on 19 June 2006 and formally replaced by the Central Lincolnshire Local Plan on 24 April 2017. Central Lincolnshire covers the combined areas of the City of Lincoln, North Kesteven and West Lindsey. The Central Lincolnshire Local Plan includes policies for the growth and regeneration of Central Lincolnshire up to 2036. The Local Plan includes policies to make sure that settlements grow in the right way, ensure homes and employment sites are located where needed, and ensures communities are sustainable, accessible and inclusive.	The HRA for the Central Lincolnshire Local Plan concluded that it would be unlikely to have a significant negative effect on an international nature conservation site, either alone or in combination with other plans or projects. It found that the Central Lincolnshire Local Plan mitigated against all of its own potential significant effects, which could be taken together with the positive mitigating impacts of other plans and projects which address, avoid or reduce potential significant negative effects on international nature conservation sites. Consequently, no in-combination effects have been identified with the North Lincolnshire Local Plan.
Appleby Parish Neighbourhood Plan (Barrow-upon-Humber, Brigg, Bonby, Elsham, Goxhill, Kirton-in-Lindsey, Saxby All Saints, South Ferriby, Winteringham, Winterton and Worlaby are in the process of drafting plans, but they have not yet gone through examination and do not therefore form part of the North Lincolnshire	These parishes have been designated as Neighbourhood Areas and are in the process of developing, or in the case of Appley Parish have already developed, their own Neighbourhood Plan. They are anticipated to cover key policies which will affect the outcome of planning applications. Hence it will allow local communities to shape development within their neighbourhood (RTPI, 2017).	These Plans will sit under the North Lincolnshire Local Plan and may allocate land for development. Consequently, in-combination effects with the North Lincolnshire Local Plan may arise. However, only some of these Neighbourhood Plans have been prepared, and therefore only that which has been adopted (i.e. Appleby Parish) will be included in this in-combination assessment. The strategic environmental assessment for the Appleby Parish Neighbourhood Plan identified that none of the policies within the plan would have a negative impact on the environment, with most policies having a strongly positive impact. Also, given Appleby Parish is 5km from the Humber Estuary SAC, SPA and Ramsar, and over 18km from Thorne and Hatfield Moors in-combination effects are not anticipated.

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development plan.		
Development/Economic		
The Humber Strategic Economic Plan 2014-2020	The over-arching Economic Plan outlines the key sectors across the region, opportunities for growth, the importance of developing a strong infrastructure, supporting businesses, promoting tourism, equipping the work force whilst protecting the environment. The ambition of the Plan is to create a competitive, resilient and prosperous region.	The Plan clearly states that all proposed development should be sustainable and not infringe on the environmental qualities of international nature conservation sites. Furthermore, proposed flood risk management objectives are likely to improve water quality and enhance biodiversity. However, some adverse effects associated with increased growth/development of the area are likely to have in-combination effects on the Humber Estuary SAC/SPA/Ramsar Site.
Greater Lincolnshire Strategic Economic Plan 2014-2030	The Plan covers opportunities for growth, existing skills within Greater Lincolnshire, existing assets e.g. transport and infrastructure and a strategy for achieving growth in the future. The priorities for growth set out in the Plan include focusing on success in a few key existing sectors including tourism, food production and engineering. Expanding growth into new sectors including care and logistics. These aims will be achieved by promoting telecommunications and developing Lincolnshire's infrastructure network.	The focus on growth and development within Lincolnshire will put pressure upon land and resources within the area. It is likely to increase pollution and disturbance to existing international nature conservation sites even with the most stringent environmental regulation. For example, the push to develop tourism in the area will attract visitors to areas of natural beauty including designated sites. Hence, in-combination effects are likely on international nature conservation sites.
Able Logistics Park	Able Logistics Park is a 497.5ha site with full planning permission in place for the creation of extensive warehousing, external storage and transportation depots, with the benefit of being located in close proximity to deep-water quays. It is located at North Killingholme.	This scheme has the potential to have significant adverse impacts on the Humber Estuary SAC, SPA and Ramsar site, however, planning conditions have been applied to address potential impacts, such as direct loss of mudflat, water pollution and disturbance to bird populations. This includes creation of wetland habitat to provide feeding, roosting and loafing areas for waterbirds at Halton Marshes, timing works to avoid the key overwintering period, phasing works to minimise construction disturbance, minimising light disturbance and having a pollution prevention plan. Consequently, it was assessed that the project is not likely to have a significant effect, alone or in-combination with other plans and projects. However, in-combination effects could arise with the North Lincolnshire Local Plan if policies within it lead to further developments within the North Killingholme area.
Able Marine Energy Park	This project will provide a bespoke port facility for the	This scheme has the potential to have significant adverse impacts on the Humber Estuary SAC, SPA

Document	Description of Plan/Project	Potential In-combination effects on international nature conservation sites
	renewable energy sector, particularly offshore wind. It covers approximately 900 acres and features 1300m of new deep-water quays. It will provide a multi-user facility for the manufacture, storage, assembly and deployment of next generation offshore wind turbines and their associated supply chains. It is located on the south bank of the Humber near North Killingholme. It constitutes a Nationally Significant Infrastructure Project and is yet to come forward. There has been a number of recent temporary permissions for car storage on part of the wider site.	and Ramsar site, however, mitigation measures and planning conditions have been applied to address potential impacts. This includes significant areas of wetland habitat creation, alongside a Regulated Tidal Exchange scheme at Cherry Cobb Sands, and careful phasing and timing of works to avoid critical periods. With the imposition of these planning conditions, the project was assessed as not likely to have a significant effect, alone or in-combination with other plans and projects. However, in-combination effects could arise with the new North Lincolnshire Local Plan if policies within it lead to further developments within the North Killingholme area. Any amendments made to the proposals, and accompanying HRA, will also need to be considered in terms of how they may impact upon the Humber Estuary SAC, SPA and Ramsar site.
North Killingholme Power Project	This project will involve the construction of a new electrical generating station and associated infrastructure on a 286ha site at North Killingholme. It will either operate as a gas-fired station, or a plant fuelled by solid fuels (i.e. coal, petroleum coke or biomass). It will also include full carbon capture facilities. It constitutes a Nationally Significant Infrastructure Project.	This scheme has the potential to have significant adverse impacts on the Humber Estuary SAC, SPA and Ramsar site through, for example, habitat loss and habitat fragmentation from construction of cooling water infrastructure in the estuary, direct fish/lamprey mortality from water abstraction, air quality changes and dust deposition and disturbance of birds from noise, light, vehicular movements and human activity. However, a number of conditions have been applied to the project to ensure no adverse impacts arise, including limiting piling extents to prevent habitat loss, fish screening of the intake system, reducing train speeds to limit noise and providing visual screening. Consequently, it was concluded that the North Killingholme Power Project would not adversely affect the integrity of the Humber Estuary SAC/SPA/Ramsar Site, so long as the mitigation and avoidance measures are implemented. However, in-combination effects could arise with the North Lincolnshire Local Plan if policies within it lead to further developments within the North Killingholme area.
Green Port Hull / Paull Local Development Order	This is a 500ha site of employment land, part of which is covered by the Paull Local Development Order which grants outline planning permission for development that is associated with renewable and low-carbon industries.	This project would likely have adverse impacts on the Humber Estuary SAC, SPA and Ramsar site. However, as part of this Local Development Order, a package of works to avoid likely significant effects on the international nature conservation site has been developed, involving measures to provide alternative habitat for Curlew, Golden Plover and Lapwing at two locations; Hedon (Newton Garth) and Hedon Haven. This will include wet grassland creation on arable land. As a result of these measures the HRA for the Local Development Order

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		concluded that there is no potential for likely significant effects on the Humber SAC/SPA/Ramsar Site, alone or in-combination with other plans or projects. Whilst this site is located on the North Bank of the Humber, given the scale of the development, potential in-combination effects could arise in conjunction with the North Lincolnshire Local Plan.
Humber Gas Pipeline Replacement Project	This project by National Grid Gas Plc comprises the construction of a replacement section of gas transporter pipeline crossing under the Humber Estuary between the existing Goxhill Above Ground Installation on the south bank of the estuary within North Lincolnshire, to the Paull Above Ground Installation on the north bank of the estuary within the East Riding of Yorkshire. It constitutes a Nationally Significant Infrastructure Project and seeks to ensure the long-term security of the Feeder 0 Gas Transmission Pipeline where it crosses the River Humber. Construction of this pipeline is currently ongoing.	The HRA that accompanies this development identifies that a number of likely significant effects on the Humber Estuary SPA and Ramsar site could occur as a result of this project, including displacement and disturbance of qualifying bird species through noise and visual disturbance, loss of foraging/roosting habitat within and adjacent to construction areas and potential impacts on inter-tidal habitats from potential pollution pathways. A number of mitigation measures were proposed to offset adverse impacts, including retaining grassland areas as alternative habitat, temporarily changing existing land use management practices and controlling access carefully. It was therefore concluded that there would not be an adverse impact on the integrity of the Humber Estuary SPA and Ramsar site as a result of the project alone, or in-combination with other projects. However, in-combination effects could arise with the North Lincolnshire Local Plan if policies within it lead to further developments within the Goxhill area that cause additional disturbance whilst the pipeline project is ongoing.
Water Management and Flooding		
Water Resource Management Plans (WRMP)- Anglian Water and Yorkshire Water.	These Plans outline the regional strategy for managing water resources across their supply area over a 25-year period. They detail the likely demand and forecast supply. This includes an exploration of proposed and existing schemes/sectors which are likely to be resource intensive. Management of these anticipated impacts are then addressed to comply with the requirements of the Water Framework Directive.	Changes to water abstraction and discharge can adversely affect international nature conservation sites by changing surface and ground water flow levels and quality (including dissolved oxygen). For example, Thorne and Hatfield Moors are susceptible to abstraction which can lead to scrub development and a loss of the qualifying communities. Despite these sensitivities, the WRMPs include measures to reduce in-combination effects of the various proposed schemes. Furthermore, during the plan period (2020 to 2045), Anglian Water forecast average per-capita consumption falling to 120 l/h/d by 2045, driven by customers selecting metering and baseline water efficiencies, although within the Central Lincolnshire resource zone a baseline deficit by 2044/45 of -5 and -15 Ml/d is predicted. However, in contrast the South Humber Bank resource zone is predicted to have a surplus greater than 3 Ml/d by 2025, and remains in surplus by 2045. Within the Yorkshire Water WRMP area, despite a supply demand deficit being predicted for 2018/19, in a dry year, it is predicted that by the mid-2030s a supply deficit is not

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		expected. This is attributed to a change in the approach to climate change, reduced leakage, ongoing reduction in household usage due to increased levels of metering and reduced non-household demand. With regards to the proposed schemes, the HRA of the Yorkshire Water WRMP concluded that, with the exception of one option, and with mitigation taken into account, the preferred plan is not likely to have significant effects on the integrity of any of the designated sites, including the Humber Estuary, Thorne and Hatfield Moors. The uncertainty regards the North Yorkshire Groundwater Option Scheme and its potential impacts on the North Pennine Dales Meadows SAC and consequently does not impact upon the sites considered in this North Lincolnshire Local Plan HRA. Has the WRMPs have not identified any likely significant effects on the sites considered in this HRA, no in-combination effects are identified.
River Basin Management Plan (RBMP): Humber River Basin District	The Plan outlines relevant waterbodies within the district and their classification. It covers the water quality within these catchments and actions to improve water quality in the future. It sets water quality targets and the next steps to achieve these. The aim of the RBMP is to address a range of challenges including: pollution (point source and diffuse) and physical modification of waterbodies.	Any improvements to water quality or naturalising waterbodies can only have a positive impact on international nature conservation sites and hence no in-combination effects are anticipated.
Grimsby and Ancholme Catchment Flood Management Plan	The Management Plan outlines measures for sustainable management over the next 50-100 years. It takes into consideration climate change and current policies to target resources in the most effective way. It looks at current and future flood risk for the whole catchment and sub catchments. The purpose of the Plan is to establish new policies to reduce flood risk.	Reducing flood risk presents tangible benefits to society but these benefits are not always transposed to the natural world. Flooding can have positive outcomes for wildlife by creating wetland habitat for waders and other wetland specialists. Flooding can detrimentally affect some species by inundating burrows and nests. In-combination effects will depend on the approach taken to flood risk management. If it focusses on improving water storage across the catchment by improving habitat quality, international nature conservation sites such as Thorne and Hatfield Moors may benefit. Conversely, hard engineering options may disconnect rivers from their floodplains, leading to a loss of wetland habitat. The Management Plan emphasises a sustainable approach and hence in-combination effects are likely to be negligible.
River Trent Catchment Flood Management Plan	The Management Plan outlines measures for sustainable management for	Reducing flood risk presents tangible benefits to society but these benefits are not always transposed to the natural world. Flooding can have

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	the next 50-100 years. It takes into consideration climate change and current policies to target resources in the most effective way. It looks at current and future flood risk for the whole catchment and sub catchments. The purpose of the Plan is to establish new policies to reduce flood risk.	positive outcomes for wildlife by creating wetland habitat for waders and other wetland specialists. Flooding can detrimentally affect some species by inundating burrows and nests. In-combination effects will depend on the approach taken to flood risk management. If it focusses on improving water storage across the catchment by improving habitat quality, international nature conservation sites such as Thorne and Hatfield Moors may benefit. Conversely, hard engineering options may disconnect rivers from their floodplains, leading to loss of wetland habitat. The Management Plan emphasises a sustainable approach and hence in-combination effects are likely to be negligible.
Humber Flood Risk Management Strategy	The Management Strategy provides information on the work to date, the importance of the strategy, the history of the project, flood risk areas and priority areas for protection. The overall aim of the strategy is to ensure that 99% of the local population receives a good standard of protection from coastal flooding for the next 25 years and into the future. It proposes to do so via improving and protecting defences and managed realignment. This strategy is currently under review.	The soft engineering options discussed within the Strategy are compatible with the aims and objectives of international nature conservation sites. For example, managed realignment creates suitable habitat for wading birds and other species. In contrast, artificial structures or hard engineering options may facilitate development closer to the coast and habitat may be lost as a result. Hence, the Flood Risk Strategy may have in-combination effects on the Humber Estuary depending on the approach of defence adopted.
Humber Estuary Coastal Authorities Group: Flamborough Head to Gibraltar Point Shoreline Management Plan 2010	The Shoreline Management Plan outlines the principles and compliance of sustainable shoreline management. It details coastal processes relevant to the plan, existing defences, land use and surrounding environments. Finally, it presents an action plan heading forward. The aims of the Management Plan are to protect against coastal erosion and flooding and promote sustainable development and coastal management which benefits the economy, environment and society.	The Management Plan is likely to benefit international nature conservation sites in so far as the approach is sustainable and actively seeks to prosper the environment. However, there remains a potential conflict of interest between this aim and the aim to prosper the economy and society. Hence, in-combination effects between the Local Plan and the Shoreline Management Plan are possible.
Nature Conservation		
Humber Management Scheme – Action Plan 2016	The Action Plan summarises the Humber Nature Partnership's approach to protecting the qualifying	The aims and objectives of the Action Plan are compatible with the conservation of the Humber Estuary European Marine Site and hence no in-combination effects on this international nature

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	features of the European Marine Site. The conservation objectives and targets of the Action Plan relate to protecting the integrity of the SPA and SAC which is measured using indicators such as abundance and distribution of qualifying habitats and species and the quality of the processes which underlie them.	conservation site are anticipated.
Thorne and Hatfield Moors Site Improvement Plan	The Site Improvement Plan (SIP) outlines the pressures and threats associated with the conservation of Thorne and Hatfield Moors. These include: Drainage, scrub control, air pollution, recreation, peat extraction and invasive species amongst others. The SIP then goes on to describe targets to address each of these issues, who is responsible and the associated cost.	The aims and objectives of the SIP are compatible with the conservation of Thorne and Hatfield Moors and hence no in-combination effects on this international nature conservation site are anticipated.
Thorne Moors Water Level Management Plan	The Management Plan provides background to water level management at Thorne Moor including the biodiversity on site, water quality and important physical features. It then proceeds to outline proposed actions to conserve these assets including contingency plans were applicable. These actions take into consideration site constraints. The aims of the Plan are to achieve target condition, protect and enhance conservation interest on site and minimise damage to these features.	The aims and objectives of the Plan are compatible with the conservation of Thorne Moors and hence no in-combination effects on this international nature conservation site are anticipated.
The Humberhead Levels Partnership	The Partnership is a collaboration of twelve organisations working to achieve bigger, better and more joined-up wetland habitat within the Humberhead Levels, whilst addressing existing environmental problems. This sustainable approach to management will involve local	The aims and objectives of the Partnership are compatible with the conservation of local international nature conservation sites and hence no in-combination effects are anticipated.

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	stakeholders to conserve biodiversity and the unique habitats on site.	
Lincolnshire Biodiversity Action Plan 2011-2020 (The Nature Strategy for Greater Lincolnshire)	The Action Plan describes the value, threats and protection of biodiversity in Lincolnshire including a detailed discussion of the key habitats and species found in Lincolnshire. It then goes on to propose actions for protecting biodiversity in Lincolnshire. The aims of the Action Plan relate to conserving and enhancing, valuing and recording biodiversity and ensuring that efforts to this effect are sustainable.	The aims and objectives of the Action Plan are compatible with the conservation of international nature conservation sites by protecting interest features within them. No in-combination effects on any international nature conservation sites are anticipated.
Lincolnshire Geodiversity Strategy 2017-21	The Geodiversity Strategy highlights the value, diversity, threats and protection of geodiversity in Lincolnshire. It has four main aims which include; 1. Recording and conserving geodiversity; 2. Robust legislation for geodiversity; 3. Publicise geodiversity; 4. Meet geodiversity objectives.	The aims and objectives of the Strategy are compatible with the conservation of international nature conservation sites by protecting interest features within them. No in-combination effects on any international nature conservation sites are anticipated.
Recreation and Tourism		
North Lincolnshire Rights of Way Improvement Plan	The Improvement Plan details how the rights of way network in North Lincolnshire can be strengthened, promoted, streamlined and extended. The Plan incorporates costs and completion dates for a range of proposed actions and has the overall aim of improving the network of public rights of way in North Lincolnshire.	Public rights of way are utilised by walkers, cyclists and horse riders. Within North Lincolnshire, most public rights of way are within rural areas. Many of the actions proposed in the plan have the aim of encouraging greater usage of rights of way by the public, often in isolated areas. Increased recreational pressure close to or within international nature conservation sites has the potential to disturb the qualifying features of the international nature conservation site e.g. avian fauna and consequently in-combination effects may occur. The plan does make reference to complying with current legislation surrounding nature conservation sites, and the plan proposes that to increase public usage of the rights of way network within North Lincolnshire, car parks should be constructed to make remote routes more accessible. This may help to reduce motorised traffic and hence may contribute to air quality and congestion targets.
England Coast Path Project	Natural England is currently in the process of developing a new National Trail around all of England's coast. As part of	Given this path is proposed to extend along the North Lincolnshire Coast, and cross the Humber using the Humber Bridge, it has potential to increase the number of visitors coming to the area.

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	this project a 'coastal margin' is being identified. In this margin, walkers will have new rights for access. However, in April 2018 a European Court judgement affected how Natural England could assess the impact of the England Coast Path on environmentally protected sites and as a result progress on the path slowed. However, the aim is to open as much of the path as possible by 2020. In North Lincolnshire, the coastal path proposals for the Mablethorpe to Humber Bridge stretch are still in development, but are expected to be finalised in winter 2020.	In-combination with policies within the North Lincolnshire Local Plan that encourage tourism and the development of recreational assets, this has the potential to significantly impact on the Humber Estuary SAC/SPA/Ramsar Sites through increased recreational pressures.
Other		
Local Transport Plan 2011 to 2026	The Transport Plan is composed of two separate documents; a strategy and how the strategy will be implemented. This fifteen-year plan seeks to foster a well maintained and sustainable transport network across North Lincolnshire. This will in turn support local businesses and communities.	The Local Transport Plan includes measures to encourage sustainable transport including promoting public transport, cycling and walking. These elements are likely to have a positive impact on local international nature conservation sites by improving air quality. However, enhancing the transport network could facilitate increased levels of visitors to international nature conservation sites and development within the region which may have in-combination effects on international nature conservation sites via habitat loss and disturbance.
Humber Area Local Aggregate Assessment (draft)	The Assessment outlines the geology of the region, aggregate resources, their supply and demand (both now and in the future) and their import and export. It details objectives for meeting future demand.	Aggregate resources are predominantly used in construction and hence any increase in supply may facilitate construction in the wider area. Furthermore, mining these resources can be extremely destructive e.g. marine dredging. Marine dredging currently takes place in the North Sea beyond the Humber Estuary. The number of licensed dredging areas here is likely to increase. Hence in-combination effects are likely between the aims and objectives of the Assessment and the Local Plan.
Action Plan for the Scunthorpe PM10 AQMA (2018)	The Action Plan outlines the measures required to meet the target of reducing PM_{10} concentrations within the Scunthorpe wide Air Quality Management Area. These measures are presented as an action plan and relate to air quality monitoring, industry, development control, non-permitted	The Action Plan aims to improve air quality locally. This can only have a positive impact on the communities and habitats found in local international nature conservation sites. Hence no in-combination effects are anticipated as a result of this Plan.

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	process emissions and tailpipe emissions. The action plan allocates responsibility to tackling each of these areas and includes measures to ensure compliance.	
Waste Strategy 2012 - 2030	The Waste Strategy covers the legal requirements and guidance applicable to waste management, recycling, waste disposal methods, challenges and solutions, options to reduce and re-use waste and a short, medium and longer-term goals. The aims of the Strategy are to reduce the quantity of waste produced and to move towards a zero-waste management system by 2020.	This Strategy for tackling waste production it likely to have a positive effect on international nature conservation sites via seeking more sustainable approaches to waste management e.g. by promoting reductions in waste and recycling. The outcome of this strategy can only be positive, although the pathways of impact on international nature conservation sites may be indirect.

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