

North Lincolnshire Council

ATKINS

**Core Strategy Development Plan Document  
Submission Draft (May 2010)**

**Habitats Regulations Assessment:  
Stage 2 – Appropriate Assessment**

December 2010

North Lincolnshire Council

# Core Strategy Development Plan Document - Submission Draft (May 2010)

## Habitat Regulations Assessment: Stage 2 - Appropriate Assessment

### Record of Assessment of adverse effects on the integrity of European Sites Required by the Conservation of Habitats and Species Regulations 2010

December 2010

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# 1. Introduction and Background

## 1.1 Background to this Assessment

This Habitats Regulations Assessment (HRA) Stage 2: Appropriate Assessment has been carried out by Atkins Limited (Atkins) on behalf of North Lincolnshire Council for the *North Lincolnshire Core Strategy Development Plan Document (DPD) - Submission Draft (May 2010)*.

The Core Strategy DPD (hereafter referred to as the Plan) covers the whole of the North Lincolnshire administrative area and is the Council's key document in shaping the future of the area over the next 16 years, up to the year 2026. The Core Strategy DPD is a high level strategic document which sets out the long term spatial planning framework for North Lincolnshire. In addition to this the Plan sets out guidance to deliver the vision for the area including the scale and distribution of development, the provision of infrastructure to support it and the protection of the natural and built environment. The Plan contains 27 policies which outline how development will be delivered in North Lincolnshire.

### Previous HRA Work

Atkins completed a Stage 1 (Screening) assessment of the Core Strategy DPD in February 2010<sup>1</sup>. This report was revised following comments from Natural England and the Royal Society for the Protection of Birds (RSPB) in August 2010<sup>2</sup>.

The revised Stage 1 Screening assessment identified a total of 19 of the 27 policies in the Core Strategy DPD that will not lead to likely significant effects on the Humber Estuary Special Area of Conservation (SAC), Special Protection Area (SPA) or Wetland of International Importance (Ramsar site) or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, it was determined that a total of eight of the policies in the Core Strategy DPD may lead to likely significant effects on the Humber Estuary SAC/SPA/Ramsar site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA. These are:

- Policy CS1 – Spatial Strategy for North Lincolnshire;
- Policy CS4 – Creating a Renaissance in North Lincolnshire;
- Policy CS7 – Overall Housing Provision;
- Policy CS8 – Spatial Distribution of Housing;
- Policy CS11 – Provision and Distribution of Employment Land;
- Policy CS12 – South Humber Bank Strategic Employment Site;
- Policy CS21 – Minerals; and,
- Policy CS26 – Strategic Transport Infrastructure Proposals.

<sup>1</sup> *North Lincolnshire Council Local Development Framework - Core Strategy Updated Appropriate Assessment Review* (produced by Atkins in February 2010)

<sup>2</sup> *North Lincolnshire Council: Core Strategy Submission Draft (May 2010) Habitats Regulations Assessment: Stage 1 – Screening (Amended)* (produced by Atkins in August 2010)

## 1.2 Background to the HRA Process

An HRA is required by the Conservation of Habitats and Species 2010 (the Habitats Regulations), for all plans and projects are likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with or necessary to the management of the European site.

HRA is also required, as a matter of UK Government policy, for potential SPAs (pSPA), candidate SACs (cSAC) and listed Wetlands of International Importance (Ramsar sites) for the purposes of considering plans and projects, which may affect them<sup>3</sup>. Hereafter all of the above designated nature conservation sites are referred to as 'international sites'.

An appropriate assessment (Stage 2 of the HRA process) is required if it is determined that the project or plan is not necessary for site management, and, if it cannot be ruled out during the Stage 1 Screening assessment, that it (the project or plan) will not have a significant effect on a European site. European sites include Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

None of the proposals within the Plan are directly connected with, or necessary to, the nature conservation management of the international sites.

The stages of HRA process are:

- **Stage 1 – Screening:** To test whether a plan or project either alone or in combination with other plans and projects is likely to have a significant effect on an international site. If it cannot be concluded that there will be no likely significant effect on any international site, Stage 2 is needed;
- **Stage 2 – Appropriate Assessment:** To determine whether, in view of an international site's conservation objectives, the plan (either alone or in combination with other projects and plans) would have an adverse effect (or risk of this) on the integrity of the site with respect to the site structure, function and conservation objectives. If adverse effects are anticipated, potential mitigation measures to alleviate impacts should be proposed and assessed;
- **Stage 3 – Assessment of alternative solutions:** Where a plan is assessed as having an adverse effect (or risk of this) on the integrity of an international site, there should be an examination of alternatives (e.g. alternative locations and designs of development); and
- **Stage 4 – Assessment where no alternative solutions remain and where adverse effects remain:** In exceptional circumstance (e.g. where there are imperative reasons of overriding public interest), compensatory measures to be put in place to offset negative impacts.

This report comprises Stage 2 Appropriate Assessment of eight policies in the Core Strategy DPD that were identified at Stage 1 as having likely significant effects on international sites: CS1, CS4, CS7, CS8, CS11, CS12, CS21 and CS26.

## 1.3 Structure of this Report

Following this introduction:

- Section 2 outlines the methodology used for this Stage 2 Appropriate Assessment;

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<sup>3</sup> Planning Policy Statement 9: Biodiversity and Geological Conservation, ODPM (August 2005)

- Section 3 provides details of the relevant international sites, including their qualifying features and Conservation Objectives;
- Section 4 outlines the other plans and projects which are included in the 'in combination' aspect of the assessment and discusses the 'in combination' effects;
- Section 5 details the results of the Stage 2 assessment;
- Section 6 discusses the mitigation going forward; and,
- Section 7 concludes the assessment.

## 2. Methodology

### 2.1 The Plan

All available information about the Plan was gathered in order to analyse whether the Plan is likely to have any likely significant effects on the international sites.

### 2.2 Determination of International Sites included in the HRA

An initial review of the Plan in light of the Habitats Regulations was undertaken by Atkins as part of the HRA Stage 1 - Screening process. This initial review looked at the geographic extent or zone of influence of any impacts which could arise as a result of the Plan and considered which international sites should be included within the assessment. This review determined that the following international sites needed to be included in the HRA Stage 1 – Screening:

- Humber Estuary SPA;
- Humber Estuary SAC;
- Humber Estuary Ramsar site;
- Thorne Moor SAC;
- Hatfield Moor SAC; and,
- Thorne and Hatfield Moors SPA.

These same six international sites have been included in this HRA Stage 2 – Appropriate Assessment. Further details of these international sites including their location, designation details and conservation objectives are provided in Section 3.

### 2.3 Obtaining Information on International Sites with the Potential to be Affected

Information was gathered on the international sites to be included in the HRA. This includes:

- Obtaining information on the qualifying features of each international site from the Joint Nature Conservation Committee (JNCC) website ([www.jncc.gov.uk](http://www.jncc.gov.uk));
- Contacting Natural England for the Conservation Objectives and Favourable Conditions Tables for each international site;
- Using scientific papers (referenced throughout) to understand the vulnerabilities and usage of each international site; and,
- Consulting Natural England, North Lincolnshire Council's Ecologist and local specialist consultants to understand site specific issues where necessary.



## 2.4 Obtaining Information on Other Projects and Plans

In accordance with the Habitat Regulations there is a need to consider the potential for effects of the Plan 'in combination' with other projects and plans<sup>4</sup>.

Statutory bodies surrounding, or in close proximity to, the international sites were contacted for details of any projects or plans that have been subject to HRA. This is in order to determine if there is the potential for a cumulative impact on these international sites. The following organisations have been contacted for details of other plans and projects which have the potential for adverse effects upon the integrity of the international sites:

- Bassetlaw District Council;
- Countryside Agency (Yorks and Humber Regional Office);
- Doncaster Metropolitan Council;
- East Riding of Yorkshire Council;
- Environment Agency;
- Government Office for Yorkshire and the Humber;
- Humber Economic Partnership;
- Kingston-upon-Hull City Council;
- Lincolnshire County Council;
- Natural England;
- North Lincolnshire Council;
- North East Lincolnshire Council;
- RSPB;
- West Lindsey District Council; and
- Local Government for Yorkshire and Humber.

## 2.5 Stage 2: Appropriate Assessment

A Stage 2 - Appropriate Assessment has been completed on the eight policies which, at the Stage 1 – Screening stage were found to have potential for likely significant effect on an international site. The purpose of this assessment is to establish whether there are elements of the Plan which could have an adverse effect on the integrity of an international site.

This HRA work has been undertaken following current available guidance, including:

- The Appropriate Assessment of Spatial Plans in England - A guide to why, when and how to do it (RSPB, 2007);
- Planning for the Protection of European Sites: Appropriate Assessment, Guidance for Regional Spatial Strategies and Local Development Plan Documents (Department for Communities and Local Government, August 2006);

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<sup>4</sup> *Habitats Regulations Guidance Note 4 – Alone or In Combination*, English Nature, May 2001

- 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, November 2001;
- Planning Policy Statement 9: Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system (PPS9);
- Government Circular ODPM Circular 6/2005 and Defra Circular 1/2005 to accompany PPS9: Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system; and,
- Natural England Habitats Regulations Guidance Notes 1 to 6.

Guidance in PPS9<sup>5</sup> defines the integrity of an international site as:

*“...the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.”<sup>6</sup>*

Areas that have been identified as being used by qualifying features (such as bird species using a SPA) but are situated outside of the boundary of the international site (e.g. high tide roost sites inland from a SPA) will also be taken into account with respect to each of the policies outlined in the Plan. For example, certain bird species for which Humber Estuary SPA/Ramsar sites and Thorne and Hatfield Moors SPA have been classified may require areas outside the designated site for feeding to maintain their populations at a favourable conservation status.

The assessment of integrity is largely based on the conservation objectives of the site. It is stated in English Nature 1997<sup>7</sup>:

*“An adverse effect on integrity is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation”*

If any plan or project causes the cited interest features of a site to fall into unfavourable condition they can be considered to have had a significant adverse effect upon the integrity of the site.

Plans or projects can adversely affect the integrity of a site by:

- Causing delays in progress towards achieving the conservation objectives of the site;
- Interrupting progress towards achieving the conservation objectives of the site;
- Disrupting those factors that help to maintain the favourable conditions of the site; and
- Interfering with the balance, distribution and density of key species that are the indicators of the favourable condition of the site.

As described in Natural England’s guidance document *The Habitats Regulations Assessment of Local Development Documents (Revised Draft)*<sup>8</sup>:

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<sup>5</sup> ODPM Circular 06/2005 Part I, Section B, Paragraph 20 accompanying *Planning Policy Statement 9: Biodiversity and Geological Conservation*

<sup>6</sup> Part I, Section B, Paragraph 20 of *ODPM Circular 06/2005* accompanying *Planning Policy Statement 9: Biodiversity and Geological Conservation*

<sup>7</sup> English Nature (1997) Habitats Regulations Guidance Note 1 The Determination of Likely Significant Effect under The Conservation (Natural Habitats &c) Regulations 1994

*“...it should be borne in mind that appropriate assessment for a plan is unlikely to be as detailed an assessment as one undertaken at project level.*

*Occasionally, where a proposal in a plan is advancing rapidly at project development level, concurrently with the plan-making process, such detailed information could be available, but usually such detailed assessments are unlikely to be achievable or feasible. The object is to assess whether it can be ascertained that the elements of the plan, alone or in combination with each other, and/or other plans or projects, would not have an adverse effect on the integrity of a European site.”*

Eight policies have been the subject of a Stage 2 - Appropriate Assessment HRA process to assess if each policy (and the proposals therein) will have adverse effects on the integrity of the international sites.

The assessment has been based on the current understanding of the strategic proposals being put forward. The ecological use of broad areas of land where development may take place in the future (e.g. for housing and employment uses) has been assessed using scientific publications, aerial photographs and discussions with local specialists. Where appropriate, specific ecological information has been obtained (i.e. where studies have been carried out to inform planning applications for developments associated with certain areas where development may take place). The North Lincolnshire Local Plan<sup>9</sup> has also been consulted, where necessary, in relation to development limits around settlements and minerals sites.

In order to help the assessment of effects, Risk Zones have been used (red, amber and green zones)<sup>10</sup>. These Risk Zones were agreed with Natural England<sup>11</sup> as a methodology for sifting the allocations sites for the development of the North Lincolnshire Housing and Employment Land Allocations Sites DPD. The zones are categorised as following:

- **Green Zone:** Areas where housing and employment allocations are extremely unlikely to have any significant impact upon international sites and as such are considered not likely to significant effects upon the international sites (and will therefore not require a Stage 2 - Appropriate Assessment);
- **Amber Zone:** Habitat outside of the international sites which may support qualifying species based on knowledge and experience of habitat preferences for those species (but for which no data is available) or habitat that may offer a linkage for indirect damage to the international sites (such as a watercourse flowing into the Humber Estuary where development directly adjacent to the watercourse may increase the risk of a likely significant effect upon the international site). Assessment of likely significant effects should be carried out (Stage 1 of the HRA process) and depending upon the size and nature of the proposal, the site may need to proceed to Stage 2 - Appropriate Assessment; and,
- **Red Zone:** Habitat generally closest to the international sites including all land within the international site boundaries, habitats directly adjacent to the international site boundaries which are complementary to the international site, and areas of habitat outside of the international site known to be used by qualifying features of the international sites. It is

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<sup>8</sup> *The Habitats Regulations Assessment of Local Development Documents*, Natural England, 2009

<sup>9</sup> North Lincolnshire Local Plan, adopted by North Lincolnshire Council in May 2003

<sup>10</sup> North Lincolnshire Housing and Employment Land DPD – Appropriate Assessment ‘Sieving’ Methodology (produced by Atkins in May 2007)

<sup>11</sup> Meeting with Emma Hawthorne and North Lincolnshire Council, 2007

presumed that any development within the red zone may have likely significant effects on the international sites and will require Stage 2 – Appropriate Assessment.

These zones make specific reference to distances that birds could utilise habitats located outside of the international site boundaries. For the Humber Estuary SPA/Ramsar, this distance was 7 km and for the Thorne and Hatfield Moors SPA this distance was 6 km (as agreed with Natural England). These Risk Zones have been taken into account when assessing each strategic proposal in the eight policies identified.

The potential for adverse effects on the integrity of the international sites from the Plan 'in combination' with other projects and plans has also been considered in this HRA. Although impacts from an individual project or plan may have no adverse effects on the integrity of an international site, cumulative impacts from other plans and projects may result in an in combination effect on one or more interest features of the international site<sup>12</sup>. Adverse effects on integrity by these means must also be considered. Details of plans and projects that have had HRAs completed due to the potential for impacts upon the six international sites were reviewed in order to determine whether there is potential for in combination effects (see Section 5).

Where necessary, mitigation measures have been put forward to address any adverse effects on integrity of the international sites (see Section 6). Policy level HRA offers an opportunity to highlight where lower tier plans and projects will require HRA in order to avoid conflict with conservation objectives for international sites. The purpose of policy level HRAs is to assess whether particular policies will impact on designated sites. If it cannot be ruled out that there will be no adverse effects on the international sites, then policies must be amended, deleted or appropriate, deliverable mitigation must be identified to avoid or remove the potential impacts of a policy. This approach will ensure the delivery of a robust and deliverable plan.

Impacts of a plan depend to a large extent on how policies and proposals are implemented on the ground. Due to the uncertainties inherent in policy-making, the exact effect of a policy or proposal may not be certain until detailed implementation. This can make it difficult to conclude with any certainty that adverse effects on integrity will not take place. Due to the requirement within the Habitats Directive to apply the precautionary principle if it is not possible to be certain that adverse effects will not occur, then this HRA proposes methods to mitigate for adverse effects that could occur. This is important, in order to demonstrate that any development brought forward as a result of policies in this Plan, can be delivered without adverse effects on integrity. Changes to the detailed design of development schemes, when they arise, may be necessary as well as mitigation.

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<sup>12</sup> *Habitat Regulations Guidance Note 4: Alone or In Combination*, English Nature, May 2001.

### 3. The International Sites

This section includes information about Humber Estuary SAC, SPA and Ramsar site, the Thorne Moor SAC, the Hatfield Moor SAC and the Thorne and Hatfield Moors SPA. This information includes designation status, location, a brief description of the qualifying features of the site and conservation objectives<sup>13</sup>.

The boundaries of Humber Estuary SAC, SPA and Ramsar site are all very similar with only minor variations. Taken together they are known as the Humber Estuary European Marine Site. The term ‘European Marine Site’ is the collective term for Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) that are covered by tidal water and protect some of the most important marine and coastal habitats and species of European importance. North Lincolnshire falls within the inner and middle parts<sup>14</sup> of the Humber Estuary SAC, SPA and Ramsar site.

**Table 3.1: Information about the Humber Estuary SAC**

|   |  |
|---|--|
| Site Designation Status                     | Humber Estuary SAC   |
| Location of International Site              | <p>The Humber is the second largest coastal plain estuary in the UK and is fed by three rivers including the Ouse, Trent and Hull. The SAC incorporates sections of the Rivers Ouse and Trent and the entire Humber Estuary, extending south from the mouth of the Humber to near Saltfleet on the east coast.</p> <p>The Humber Estuary comprises extensive wetland and coastal habitats. The inner estuary supports extensive areas of reedbed, with areas of mature and developing saltmarsh backed by grazing marsh in the middle and outer estuary. On the northern part of the coast in Lincolnshire, the saltmarsh is backed by low sand dunes with marshy slacks and brackish pools.</p> |
| Brief Description of the International Site | <p>Humber Estuary SAC qualifies for European protection due to the Annex I habitats it supports including:</p> <ul style="list-style-type: none"> <li>• Coastal lagoons;</li> <li>• Fixed dunes with herbaceous vegetation (‘grey dunes’);</li> <li>• Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>);</li> <li>• Dunes with <i>Hippophae rhamnoides</i>;</li> </ul>  |

<sup>13</sup> Conservation Objectives for the Humber Estuary SAC, SPA and Ramsar site were taken from *Conservation Objectives and Definitions of Favourable Conditions For Designated Features of Interest: Humber Estuary* produced by Natural England (Draft, December 2009). Conservation Objectives for the Thorne and Hatfield Moors SACs and SPA were taken from *Conservation Objectives and Definitions of Favourable Conditions For Designated Features of Interest: Thorne, Crowle and Goole Moors* produced by Natural England (Consultation Draft, February 2009).

<sup>14</sup> The ‘inner’ section of the Humber Estuary encompasses the area from Trent Falls to the Humber Bridge. The ‘middle’ section of the Humber Estuary encompasses the area from the Humber Bridge to Grimsby.

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>• Embryonic shifting dunes;</li> <li>• Estuaries;</li> <li>• Mudflats and sandflats not covered by seawater at low tide;</li> <li>• <i>Salicornia</i> and other annuals colonising mud and sand;</li> <li>• Sandbanks which are slightly covered by sea water all the time; and,</li> <li>• Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes')</li> </ul> <p>The site is also designated as it hosts the following Annex II species:</p> <ul style="list-style-type: none"> <li>• Grey seal (<i>Halichoerus grypus</i>);</li> <li>• River lamprey (<i>Lampetra fluviatilis</i>); and,</li> <li>• Sea lamprey (<i>Petromyzon marinus</i>).</li> </ul> |
| <p>Vulnerabilities of the International Site</p> | <p>The Humber Estuary SAC is vulnerable to impacts on the geomorphological structure and function of the estuary (including impacts on the sediment budget) from the following:</p> <ul style="list-style-type: none"> <li>• Coastal squeeze (e.g. sea level rise and climate change);</li> <li>• Flood defence works;</li> <li>• Dredging;</li> <li>• Construction, operation and maintenance of ports, pipelines and other infrastructure; and,</li> <li>• Changes in water quality and flows.</li> </ul> <p>In addition the site is sensitive from damage and disturbance arising from access, recreation and other activities.</p>   |

**Table 3.2: Information about the Humber Estuary SPA**

|                                       |  |
|---------------------------------------|--|
| <p>Site Designation Status</p>        | <p>Humber Estuary SPA</p>  |
| <p>Location of International Site</p> | <p>The Humber is the second largest coastal plain estuary in the UK and is fed by three rivers including the Ouse, Trent and Hull. The SPA incorporates sections of the Rivers Ouse and Trent and the entire Humber Estuary, extending south from the mouth of the Humber to near Saltfleet on the east coast.</p> <p>The Humber Estuary comprises extensive wetland and coastal habitats. The inner estuary supports extensive areas of reedbed, with areas of mature and developing saltmarsh backed by grazing marsh in the middle and outer estuary. On the North Lincolnshire</p> |

|  |   |
|--|---|
|  | <p>coast, the saltmarsh is backed by low sand dunes with marshy slacks and brackish pools.</p>  |
| <p>Brief Description of the International Site</p> | <p>The Humber Estuary SPA 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:</p> <p><b>During the breeding season:</b></p> <ul style="list-style-type: none"> <li>• Avocet (<i>Recurvirostra avosetta</i>): 8.6% of the population in Great Britain;</li> <li>• Bittern (<i>Botaurus stellaris</i>): 10.5% of the population in Great Britain;</li> <li>• Little tern (<i>Sterna albifrons</i>): 51 pairs representing at least 2.1% of the breeding population in Great Britain; and,</li> <li>• Marsh harrier (<i>Circus aeruginosus</i>), 10 pairs representing at least 6.3% of the breeding population in Great Britain.</li> </ul> <p><b>Over winter:</b></p> <ul style="list-style-type: none"> <li>• Bar-tailed godwit (<i>Limosa lapponica</i>): 2,752 individuals representing at least 4.4% of the wintering population in Great Britain;</li> <li>• Bittern (<i>Botaurus stellaris</i>): 4 individuals representing at least 4.0% of the wintering population in Great Britain;</li> <li>• Golden plover (<i>Pluvialis apricaria</i>): 30,709 individuals representing at least 12.3% of the wintering population in Great Britain;</li> <li>• Avocet (<i>Recurvirostra avosetta</i>): 59 individuals representing 1.7% of the population in Great Britain; and,</li> <li>• Hen harrier (<i>Circus cyaneus</i>): 8 individuals representing at least 1.1% of the wintering population in Great Britain</li> </ul> <p><b>On passage:</b></p> <ul style="list-style-type: none"> <li>• Ruff (<i>Philomachus pugnax</i>): 128 individuals representing 1.4% of the population in Great Britain</li> </ul> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following <b>migratory</b> species:</p> <p><b>On passage:</b></p> <ul style="list-style-type: none"> <li>• Redshank (<i>Tringa totanus</i>): 7,462 individuals representing at least 5.7% of the Eastern Atlantic - wintering population</li> <li>• Black-tailed godwit (<i>Limosa limosa islandica</i>): 915 individuals representing at least 2.6% of the population</li> <li>• Knot (<i>Calidris canutus</i>): ,18,500 individuals representing at least 4.1% of the population</li> </ul> |



- Dunlin (*Calidris alpina alpina*): 20,269 individuals representing at least 1.5% of the population
- Sanderling (*Calidris alba*): 1,767 individuals representing at least 1.8% of the Eastern Atlantic/Western & Southern Africa - wintering population

**Over winter:**

- Dunlin (*Calidris alpina alpina*): 22,222 individuals representing at least 1.7% of the wintering western Europe population
- Knot (*Calidris canutus*): 28,165 individuals representing at least 6.3% of the wintering western Europe population;
- Black-tailed godwit (*Limosa limosa islandica*): 1,113 individuals representing at least 3.2% of the population;
- Redshank (*Tringa totanus*): 4,632 individuals representing at least 3.6% of the; and,
- Shelduck (*Tadorna tadorna*): 4,464 individuals representing at least 1.5% of the wintering North western Europe population.

**Assemblage qualification:**

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 plover (*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*).

Non-qualifying species of interest: The SPA is used by non-breeding merlin (*Falco columbarius*), peregrine (*F. peregrinus*) and short-eared owl (*Asio flammeus*) and breeding common tern (*Sterna hirundo*) and kingfisher (*Alcedo atthis*) (all species listed in Annex I to the EC Birds Directive) in numbers of less than European importance (less than 1% of the GB population).



|   |  |
|---|--|
| <p>Vulnerabilities of the International Site<sup>15</sup></p> | <p>The Humber Estuary SPA is vulnerable to impacts on the geomorphological structure and function of the estuary (including impacts on the sediment budget) from the following:</p> <ul style="list-style-type: none"> <li>• Coastal squeeze (e.g. sea level rise and climate change);</li> <li>• Flood defence works;</li> <li>• Loss of high tide roosting and foraging areas for the SPA birds;</li> <li>• Dredging;</li> <li>• Construction, operation and maintenance of ports, pipelines and other infrastructure; and,</li> <li>• Changes in water quality and flows.</li> </ul> <p>In addition the site is sensitive from damage and disturbance arising from access, recreation and other activities.</p> |
|---|--|

**Table 3.3: Information about the Humber Estuary Ramsar Site**

|  |  |
|--|--|
| <p>Site Designation Status</p>                     | <p>Humber Estuary Ramsar site</p>  |
| <p>Location of International Site</p>              | <p>The Humber is the second largest coastal plain estuary in the UK and is fed by three rivers including the Ouse, Trent and Hull. The Ramsar site incorporates sections of the Rivers Ouse and Trent and the entire Humber Estuary, extending south from the mouth of the Humber to near Saltfleet on the east coast.</p> <p>The Humber Estuary comprises extensive wetland and coastal habitats. The inner estuary supports extensive areas of reedbed, with areas of mature and developing saltmarsh backed by grazing marsh in the middle and outer estuary. On the North Lincolnshire coast, the saltmarsh is backed by low sand dunes with marshy slacks and brackish pools.</p> |
| <p>Brief Description of the International Site</p> | <p>The site qualifies under <b>Criterion 1</b> because it contains a representative, rare, or unique example of a natural or near-natural wetland type:</p> <p>The site is a representative example of a near-natural estuary with the following component habitats: dune systems and humid dune slacks, estuarine waters, intertidal mud and sand flats, saltmarshes, and coastal brackish/saline lagoons.</p> <p>It is a large macro-tidal coastal plain estuary with high suspended sediment loads, which feed a dynamic and rapidly changing system of accreting and eroding intertidal and subtidal mudflats, sandflats,</p>  |

<sup>15</sup> Humber Estuary SPA Natura 2000 Standard Data Form produced by JNCC (Version 1.1, 23/08/07)

saltmarsh and reedbeds. Examples of both strandline, foredune, mobile, semi-fixed dunes, fixed dunes and dune grassland occur on both banks of the estuary and along the coast. The estuary supports a full range of saline conditions from the open coast to the limit of saline intrusion on the tidal rivers of the Ouse and Trent. Wave exposed sandy shores are found in the outer/open coast areas of the estuary. These change to the more moderately exposed sandy shores and then to sheltered muddy shores within the main body of the estuary and up into the tidal rivers.

The lower saltmarsh of the Humber is dominated by common cordgrass (*Spartina anglica*) and annual glasswort (*Salicornia*) communities. Low to mid marsh communities are mostly represented by sea aster (*Aster tripolium*), common saltmarsh grass (*Puccinellia maritime*) and sea purslane (*Atriplex portulacoides*) communities. The upper portion of the saltmarsh community is atypical, dominated by sea couch *Elytrigia atherica* (*Elymus pycnanthus*) saltmarsh community. In the upper reaches of the estuary, the tidal marsh community is dominated by the common reed (*Phragmites australis*) fen and sea club rush (*Bolboschoenus maritimus*) swamp with the couch grass *Elytrigia repens* (*Elymus repens*) saltmarsh community. Within the Humber Estuary Ramsar site there are good examples of four of the five physiographic types of saline lagoon.

The site qualifies under **Criterion 3** because it supports populations of animal species important for maintaining the biological diversity of the biogeographic region:

The Humber Estuary Ramsar site supports a breeding colony of grey seals (*Halichoerus grypus*) at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast. The dune slacks at Saltfleetby-Theddlethorpe on the southern extremity of the Ramsar site are the most north-easterly breeding site in Great Britain of the natterjack toad (*Bufo calamita*).

The site qualifies under **Criterion 5** because it regularly supports 20,000 or more waterbirds: In the non-breeding season, the area regularly supports 153,934 individual waterbirds (5 year peak mean 1996/97 – 2000/01).

The site qualifies under **Criterion 6** because it regularly supports 1% of the individuals in the populations of the following species or subspecies of waterbird in any season:

| Species   | Count and season                  | Period                                   | % of subspecies/ population   |
|---|-----------------------------------|--|---|
| Shelduck<br><i>Tadorna tadorna</i>              | 4,464 individuals<br>– wintering  | 5 year peak mean<br>1996/97 –<br>2000/01 | 1.5% North<br>western Europe<br>(breeding)                                  |
| Golden plover<br><i>Pluvialis apricaria</i>     | 30,709 individuals<br>– wintering | 5 year peak mean<br>1996/97 –<br>2000/01 | 3.8% <i>altifrons</i> , NW<br>Europe, W<br>Continental<br>Europe, NW Africa |
| Knot<br><i>Calidris canutus</i>                 | 28,165 individuals<br>– wintering | 5 year peak mean<br>1996/97 –<br>2000/01 | 6.3% <i>islandica</i>   |
| Dunlin<br><i>Calidris alpina</i>                | 22,222 individuals<br>– wintering | 5 year peak mean<br>1996/97 –<br>2000/01 | 1.7% <i>alpina</i> ,<br>Western Europe<br>(non-breeding)                    |
| Black-tailed<br>godwit <i>Limosa<br/>limosa</i> | 1,113 individuals<br>– wintering  | 5 year peak mean<br>1996/97 –<br>2000/01 | 3.2% <i>islandica</i>   |
| Bar-tailed godwit<br><i>Limosa lapponica</i>    | 2,752 individuals<br>– wintering  | 5 year peak mean<br>1996/97 –<br>2000/01 | 2.3% <i>lapponica</i>   |
| Redshank<br><i>Tringa totanus</i>               | 4,632 individuals<br>– wintering  | 5 year peak mean<br>1996/97 –<br>2000/01 | 3.6% <i>britannica</i>  |
| Golden plover<br><i>Pluvialis apricaria</i>     | 17,996 individuals<br>– passage   | 5 year peak mean<br>1996 – 2000          | 2.2% <i>altifrons</i> , NW<br>Europe, W<br>Continental<br>Europe, NW Africa |
| Knot<br><i>Calidris canutus</i>                 | 18,500 individuals<br>– passage   | 5 year peak mean<br>1996 – 2000          | 4.1% <i>islandica</i>   |
| Dunlin<br><i>Calidris alpina</i>                | 20,269 individuals<br>– passage   | 5 year peak mean<br>1996 – 2000          | 1.5% <i>alpina</i> ,<br>Western Europe<br>(non-breeding)                    |
| Black-tailed<br>godwit<br><i>Limosa limosa</i>  | 915 individuals –<br>passage      | 5 year peak mean<br>1996 – 2000          | 2.6% <i>islandica</i>   |
| Redshank<br><i>Tringa totanus</i>               | 7,462 individuals<br>– passage    | 5 year peak mean<br>1996 – 2000          | 5.7% <i>britannica</i>  |

The site qualifies under **Criterion 8** because it is a migration path on which fish stocks, either within the wetland or elsewhere, depend: The Humber Estuary acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) between coastal waters and their spawning areas.

**Non-qualifying species of interest:**

The Ramsar site supports nationally important non-breeding numbers of hen harrier (*Circus cyaneus*) (based on five year peak mean 1997/98 – 2001/02), and nationally important breeding numbers of marsh harrier (*Circus aeruginosus*), avocet (*Recurvirostra avosetta*), little tern (*Sterna albifrons*) (based on five year means 1998 – 2002) and bittern (*Botaurus stellaris*) (based on three year mean 2000 – 2002).

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|---|---|
| <p>Vulnerabilities of the International Site<sup>16</sup></p> | <p>The Humber Estuary Ramsar is vulnerable to impacts on the geomorphological structure and function of the estuary (including impacts on the sediment budget) from the following:</p> <ul style="list-style-type: none"> <li>• Coastal squeeze (e.g. sea level rise and climate change);</li> <li>• Flood defence works;</li> <li>• Dredging;</li> <li>• Construction, operation and maintenance of ports, pipelines and other infrastructure; and,</li> <li>• Changes in water quality and flows.</li> </ul> <p>In addition the site is sensitive from damage and disturbance arising from access, recreation and other activities.</p> |
|---|---|

**Table 3.4: Conservation Objectives for the Humber Estuary SAC, SPA and Ramsar Site**

|   |   |
|---|---|
| <p>Conservation Objectives of the Humber Estuary SAC, SPA and Ramsar site</p> | <p>The Conservation Objectives for this site are, subject to natural change, to maintain the following habitats and geological features in favourable condition (*), with particular reference to any dependent component special interest features (habitats, vegetation types, species, species assemblages etc.) for which the land is designated (SAC, SPA, Ramsar).</p> <p><b><i>Habitat Types represented (Biodiversity Action Plan categories)</i></b></p> <ul style="list-style-type: none"> <li>• Estuary;</li> <li>• Inshore sublittoral sediment;</li> <li>• Littoral rock;</li> <li>• Inshore littoral rock;</li> <li>• Littoral sediment (mudflat, sandflat and saltmarsh);</li> <li>• Saline lagoons;</li> <li>• Sand dunes; and,</li> <li>• Standing open water and canals.</li> </ul> <p><b><i>Species features</i></b></p> <ul style="list-style-type: none"> <li>• Breeding bird assemblage;</li> <li>• Passage and wintering waterfowl species;</li> <li>• Grey seal;</li> <li>• River lamprey;</li> </ul> |
|---|---|

<sup>16</sup> Humber Estuary Ramsar Site: Information Sheet on Ramsar Wetlands produced by JNCC (Version 3.0, 13/06/2008)

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• Sea lamprey;</li> <li>• Vascular plants assemblages; and,</li> <li>• Invertebrate assemblages.</li> </ul> <p>(*) or restored to favourable condition if features are judged to be unfavourable.</p> <p><b>In relation to the SPA and Ramsar site specifically:</b> To maintain the designated species (the aggregation of breeding birds) in favourable condition, which is defined in part in relation to their population attributes including:</p> <ul style="list-style-type: none"> <li>• habitat extent: No decrease in extent of listed habitats from established baselines, subject to natural change, as defined in the conservation objectives for these habitats;</li> <li>• habitat condition: No decrease in extent of suitable habitat for breeding species from established baselines, subject to natural change, as defined in the conservation objectives for these habitats;</li> <li>• bird population size (five year mean counts for each species is the main measure of the population size): Maintain the population within acceptable limits; and,</li> <li>• disturbance and displacement: No significant reduction in bird numbers either on the site, or from one part of the site to another attributable to anthropogenic factors.</li> </ul> |
|--|---|

**Table 3.5: Information about the Thorne and Hatfield Moors SPA**

|   |  |
|---|--|
| Site Designation Status                     | Thorne and Hatfield Moors SPA  |
| Location of International Site              | <p>The site is located along the western edge of the North Lincolnshire Council boundary. The SPA in the majority falls into the Metropolitan Borough of Doncaster although small sections are located within the East Riding of Yorkshire and North Lincolnshire.</p> <p>The nearest settlement to the SPA in North Lincolnshire is Wroot (located approximately 0.65 km south of the SPA).</p>   |
| Brief Description of the International Site | <p>The composite site of Thorne and Hatfield Moors SPA qualifies for European protection due to the breeding population of nightjars that use the site for nesting and feeding. The sixty-six pairs of nightjar breeding on the Thorne and Hatfield Moors represent 1.9% of the breeding population in Great Britain.</p> <p>The European nightjar is a Species of European Concern, as the global population is concentrated in Europe, although it currently has</p> |

|   |   |
|---|---|
|   | <p>an unfavourable conservation status within the continent. Nightjars are a ground nesting species, preferring well-drained, open ground with vegetation such as open young woodland or heather moors. It is thought that human disturbance has negative impacts on the success of breeding in this species (Murison 2002).</p>  |
| Conservation Objectives of the International Site       | <p>The conservation objectives for this site are:</p> <ul style="list-style-type: none"> <li>• to restore to favourable condition the area currently notified as degraded raised bog; and</li> <li>• to maintain, in favourable condition, the habitats for the populations of Annex 1 species of European importance (nightjar), with particular reference to degraded bog capable of natural regeneration as a precursor of active raised bog.</li> </ul> <p><b>Please note:</b> the word ‘maintain’ used in the context above implies restoration if the feature is not currently in favourable condition.</p> |
| Vulnerabilities of the International Site <sup>17</sup> | <p>The Thorne and Hatfield Moors SPA is sensitive to:</p> <ul style="list-style-type: none"> <li>• Peat cutting;</li> <li>• Succession of vegetation (from a lack of management); and</li> <li>• Re-wetting operations</li> </ul>   |

**Table 3.6: Information about the Hatfield Moor SAC**

|   |   |
|---|---|
| Site Designation Status                     | Hatfield Moor Special Area of Conservation  |
| Location of International Site              | <p>This site is located along the western edge of the North Lincolnshire Council boundary. The entire SAC is located within the Metropolitan Borough of Doncaster.</p> <p>The nearest settlement to the SAC in North Lincolnshire is Wroot (located approximately 0.65 km south of the SAC).</p>  |
| Brief Description of the International Site | <p>Hatfield Moor SAC is a remnant of the original extensive bog and wetland once found in the Humberhead Levels and is the second largest area of extant lowland raised bog in England. The SAC is designated because of the Annex I habitats present within the site, degraded raised bogs still capable of natural regeneration. However, after restoration some areas of Thorne Moor now support active raised bog.</p> <p>There are a range of habitats within the site and these include inland water bodies (standing water, running water); bogs, marshes, water fringed vegetation and fens; heath, scrub, maquis and garrigue, and</p> |

<sup>17</sup> *Thorne and Hatfield Moors SPA Natura 2000 Standard Data Form*, produced by JNCC (Version 1.1, 05/05/06)

|   |   |
|---|---|
|   | phygrana; arable land; broad-leaved deciduous woodland; coniferous woodland and other land (including towns, villages, roads, waste places, mines, industrial sites).   |
| Conservation Objectives of the International Site       | The conservation objective for this site is to restore to favourable condition the area currently notified as degraded raised bog.  |
| Vulnerabilities of the International Site <sup>18</sup> | <p>Hatfield Moor SAC is sensitive to:</p> <ul style="list-style-type: none"> <li>• Peat cutting;</li> <li>• Water abstraction from the underlying aquifer;</li> <li>• Extraction of sand and gravel aggregates almost adjacent to the site;</li> <li>• Surrounding agricultural drainage and,</li> <li>• Succession of vegetation (e.g. scrub invasion following drainage and peat cutting).</li> </ul> |

**Table 3.7: Information about the Thorne Moor SAC**

|   |   |
|---|---|
| Site Designation Status                           | Thorne Moor Special Area of Conservation  |
| Location of International Site                    | <p>The site is located along the western edge of the North Lincolnshire Council boundary. Most of the SAC is located within the Metropolitan Borough of Doncaster but small sections are located within the East Riding of Yorkshire and North Lincolnshire.</p> <p>The nearest settlement to the SAC in North Lincolnshire is Crowle (located approximately 1.2 km south-east of the SAC).</p>   |
| Brief Description of the International Site       | <p>Thorne Moor SAC is the largest remaining area of raised bog in England. Despite extensive operations of peat excavation there are still large areas of Sphagnum bog as well as many heathland habitats. The degraded raised bog still capable of natural regeneration is the Annex I habitat that is the primary reason for the site's allocation as a SAC.</p> <p>The range of habitats present within the site are inland water bodies (standing water, running water); bogs, marshes, water fringed vegetation and fens; heath, scrub, maquis, garrigue and phygrana; broad-leaved deciduous woodland and other land (including towns, villages, roads, waste places, mines, industrial sites).</p> |
| Conservation Objectives of the International Site | The conservation objective for this site is to restore to favourable condition the area currently notified as degraded raised bog.  |

<sup>18</sup> Hatfield Moor SAC Natura 2000 Standard Data Form produced by JNCC (Version 2.1, 14/03/03)

Vulnerabilities of the  
International Site<sup>19</sup>

Thorne Moor SAC is sensitive to:

- Peat cutting;
- Water abstraction from the underlying aquifer;
- Surrounding agricultural drainage and,
- Succession of vegetation (scrub invasion following drainage and peat cutting).

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<sup>19</sup> Thorne Moor SAC Natura 2000 Standard Data Form produced by JNCC (Version 2.1, 14/03/03)



## 4. Assessment of In Combination Effects

The consultation with the surrounding authorities identified other projects or plans which have or are going through the HRA process as they were considered to have the potential to cause adverse effects on the six international sites.

Every reasonable effort has been made to obtain information on potentially relevant other plans and projects, and to find out further details of named projects where possible. Based on the consultation, Table 4.1 below provides information about plans and projects that could act in combination with the policies in the Plan to create adverse effects on the integrity of the six international sites.

There are currently no other plans or projects than those outlined in Table 4.1, which have been identified as having the potential to cause a likely significant effect or adverse effects on the integrity of Humber Estuary SAC, SPA or Ramsar or the Thorne Moor SAC, Hatfield Moor SAC or Thorne and Hatfield Moors SPA (collectively referred to as the Thorne and Hatfield Moors International Sites).

Table 4.1 summarises the projects and plans identified and whether there is an anticipated in combination effect with the Core Strategy DPD. There are three other projects and two plans which generate potential for in combination effects with Policies CS1, CS4, CS7, CS8, CS11, CS12, CS21 and CS26.

Each of these five projects/plans has been identified as likely to generate likely significant effects on the Humber Estuary SAC, SPA and Ramsar site on their own (no projects with effects on the Thorne and Hatfield Moors international sites were identified). Due to the nature of the likely effects and their proximity to North Lincolnshire, they are also likely to generate in combination effects with the Core Strategy DPD that could result in greater impacts on the International sites.

However, each of the five projects/plans above will have to provide mitigation measures to avoid adverse effects on the international sites. Coupled with the mitigation measures for the Core Strategy DPD (outlined in Section 6 above) this will ensure that there are no in combination effects on the Humber Estuary SAC, SPA or Ramsar site.

**Table 4.1: Summary of other plans and projects included in the in combination assessment**

| Project or Plan   | Details  | Result of HRAs   | Potential for In Combination effects with Core Strategy DPD                         |
|---|--|--|---|
| Grimsby Town Football Club Plc: Application to build a new stadium (November 2007): | Planning ref: DC/991/99/WOL and DC/990/99/PCL<br>20,100 seat football stadium, with 1,300 car parking spaces and a coach park, to be built as a phased development | Mitigation required as the site of the new football stadium is used by SPA and Ramsar birds associated with the Humber Estuary.<br>Mitigation to take the form of a Section 106 agreement or planning condition with the developers to provide an area of land 37 hectares in size within 1 km of the development site and a management plan to be agreed by North East Lincolnshire Council and Natural England (NE). | <b>None:</b> Adverse effects from constructing the new stadium have been mitigated. |

| Project or Plan  | Details  | Result of HRAs   | Potential for In Combination effects with Core Strategy DPD  |
|--|--|--|--|
|  |  | <p><b>Conclusion:</b> As a result of mitigation it was agreed that there would be <b>no adverse effects</b> on integrity of the Humber Estuary SAC, SPA or Ramsar site.</p>  |  |
| <p>Humber Quays Development (Phase 2)</p>                                | <p>It is proposed that when work commences in 2011/12 phase two of Humber Quays will include:</p> <ul style="list-style-type: none"> <li>• a range of major office buildings providing up to 20,650 m<sup>2</sup> commercial office space;</li> <li>• approximately 32 residential apartments;</li> <li>• a second multi-storey car park to serve the development; and,</li> <li>• extension of the flood defence wall to the estuary frontage.</li> </ul> | <p>Likely significant effect through potential noise, vibration and visual disturbance to water birds using the Humber Estuary SPA and Ramsar site during construction and operational phases of development. It would also lead to the loss of terrestrial habitat outside the designated area.</p> <p>It was agreed with NE that there is no potential to directly impact upon habitats within the boundary of the Humber Estuary SAC, SPA and Ramsar site.</p> <p>Precautionary mitigation measures commensurate with the potential impacts have been put in place to minimise the impacts upon water birds and habitats (i.e. qualifying features of the SPA/SAC/Ramsar site).</p> <p><b>Conclusion:</b> The overall conclusion, agreed with NE, was that the outlined proposed development was <b>unlikely to have an adverse effect</b> on the interest features of the SAC. This is to be reviewed with NE as the detailed design develops.</p> | <p><b>None:</b> Humber Quays is located in Hull, which is approximately 13km from North East Lincolnshire (at its nearest point) and is on the north side of the Estuary.</p> <p>Likely significant effects identified were noise, vibration and visual impacts of construction and operation. Potential for adverse effects of this type from the Plan have also been identified. However, due to the distance between Humber Quays and the nearest potential employment development that could arise as a result of the Plan, it is unlikely that the same birds will be affected by construction and operation activities in the two areas. Mitigation will be implemented at Humber Quays and for all employment development arising from the Plan, where it is deemed necessary, in order to reduced noise, vibration and visual impacts to acceptable levels in each location, meaning that 'in combination' effects are not likely.</p> |
| <p>Regional Spatial Strategy for Yorkshire and The Humber (May 2008)</p> | <p>A high level strategic document which forms the highest tier of the local development plan.</p> <p><b>N.B: Regional Spatial Strategies have been abolished under the new government.</b></p>  | <p>The document has a broad scope and the detailed implications of the Strategy could not be assessed.</p> <p>A number of potential impacts were identified that will be considered in more detail though the Local Development Framework process and individual planning applications. In particular an increase in water abstractions may result in adverse effects to international sites.</p> <p><b>Conclusion:</b> Water abstraction is subject to a licensing regime operated by the Environment Agency. Any new abstractions resulting from implementation of the Regional Spatial Strategy (including through Local Development Frameworks) will be licensed and subject to Appropriate Assessment carried out by the Agency.</p>  | <p><b>None:</b> Regional Spatial Strategies have been abolished under the new government. As such there is no scope for in combination effects</p>   |

| Project or Plan   | Details   | Result of HRAs  | Potential for In Combination effects with Core Strategy DPD   |
|---|---|---|---|
| Wind Farm - Application by Novartis to erect wind turbines  | Application to build three turbines   | N/A   | <b>None:</b> Planning application was withdrawn.  |
| Application to build the Humber Gateway Off-Shore Wind Farm   | Application to build 42-83 turbines off the Holderness coast of East Yorkshire  | <b>Conclusion:</b> The proposal was determined to have adverse effects on integrity of the Humber Estuary international sites. As such the application was <b>refused planning permission</b> and the project will not be carried out.  | <b>None:</b> Planning application was refused.  |
| North Moss Lane   | Planning ref: DC/1258/06/IMM<br>Application for a mixed industrial development (B1, B2 and B8) to the north of Stallingborough Town, North-East Lincolnshire.   | <b>Conclusion:</b> The HRA screening found that after mitigation there would be <b>no likely significant effects</b> to international sites and planning permission was granted.  | <b>None:</b> No likely significant effects identified   |
| Hobson Way - Katoen Natie Site  | Planning ref: DC/70/07/IMM<br>Land off Hobson Way, Stallingborough.<br><br>The proposed development is for a bioethanol plant to produce fuel ethanol. The plant will comprise of a range of storage areas, equipment and processing areas and associated office buildings. | <b>Conclusion:</b> The HRA screening found that after mitigation there would be <b>no likely significant effects</b> to international sites and planning permission was granted.  | <b>None:</b> No likely significant effects identified.  |
| Environment Agency - Humber Flood Risk Management Strategy: Habitats Regulations Assessment (Draft, April 2009) | Stages 1 to 4 of the HRA process on the Humber Flood Risk Management (FRM) Strategy (adopted in March 2008) which describes how flood risk will be managed in the estuary for the next 100 years  | <b>Conclusion:</b> Stage 4 of the HRA process determined that appropriate 'compensation' in the form of habitat creation can be secured to offset the adverse impacts of the FRM Strategy. Furthermore, each individual scheme that each individual scheme arising for the FRM Strategy will be subject to the necessary HRA tests, in consultation with Natural England and the Local Planning Authority.<br><br>The findings of this HRA are in draft and are currently being finalised by the Environment Agency in consultation with Natural England. | There is potential for in combination effects with development set out in this Plan.<br><br>The Environment Agency will need to agree appropriate mitigation and compensation with Natural England to ensure adverse effects do not occur.<br><br>The mitigation measures set out in the Core Strategy DPD (in combination with any mitigation/compensation measures to be put forward by the Environment Agency) will ensure that there are no in combination effects. |
| Able UK – Humber Port Facility at South Humber Bank   | Planning ref: PA/2009/0600<br>Planning permission to erect buildings and use land for purposes within Use Classes A3, C1, B1, B2 and B8 for port-related storage and associated service facilities together with amenity landscaping  | The Stage 1 Screening found that the project would be likely to have a significant effect on the Humber Estuary SPA, SAC and Ramsar site. A Stage 2 Appropriate Assessment has been completed which concluded that there were no adverse effects on the integrity of the Humber Estuary SPA, SAC and Ramsar site taking   | This application could be 'called in' by the Secretary of State due to Natural England's concerns.<br><br>If the application is not called in by the Secretary of State there is the potential for there to be 'in combination' effects with the Core Strategy DPD as this project falls within the SHBSES (a development   |

| Project or Plan  | Details  | Result of HRAs  | Potential for In Combination effects with Core Strategy DPD  |
|--|--|---|--|
|  | <p>and habitat creation, including flood defences, new railway siding, estate roads, sewage and drainage facilities, floodlighting, waste processing facility, hydrogen pipeline spur and two 20 metre telecommunication masts.</p> <p>Planning permission was not granted by North Lincolnshire Council on the 14<sup>th</sup> October 2010. The Planning Committee decision was as follows:</p> <p>“Resolved - (a) That the committee is mindful to grant permission for the development; (b) that the application be referred to the Secretary of State in accordance with statutory procedures to enable him to consider whether or not he wishes to intervene...”</p> | <p>into account mitigation measures.</p> <p>However, Natural England has objected to the granting of planning permission for this scheme because, in their opinion, there are unresolved issues relating to the Stage 2 – Appropriate Assessment<sup>20</sup>. Natural England’s concerns relate to the assessment of effects on the international sites from coastal squeeze and also in relation to the type and amount of mitigation to be provided by Able UK.</p>  | <p>aspect of Policy CS12). This may potentially result in ‘in combination’ effects from physical loss, physical damage and non physical disturbance to the Humber Estuary SAC, SPA and Ramsar site.</p> <p>It is understood that Able UK is willing to amend the mitigation areas and work with Natural England to ensure that they have optimal functionality for SPA and Ramsar site birds and that this has been welcomed by Natural England. However, it is understood that Natural England require more clarity and certainty in relation to the mitigation than has currently been provided.</p> <p>In relation to the Core Strategy DPD, the Plan commits to delivering the <i>South Humber Gateway Conservation Mitigation Strategy Delivery Plan</i> and working with the Ecology Sub Group (including working with Natural England and RSPB) to achieve the provision of the necessary mitigation in the SHBSES.</p> <p>Therefore, the mitigation measures set out in this Core Strategy DPD should ensure that there are no ‘in combination’ effects with the Able UK scheme.</p> |
| <p>Able UK – Marine Energy Park at South Humber Bank</p> | <p>Proposal for the construction of quayside purpose built for construction and installation of wind turbines and the development of biomass energy generation. This proposal is at the scoping stage.</p>   | <p>This is a proposal only (announced by Able UK on the 8th July 2010). This application will not be submitted to the Council, but to the independent Planning Commission (IPC). This application is currently registered with the IPC as a pre- application and is at the scoping stage.</p> <p>No stages of the HRA process have been carried out on this proposal. However, given its proximity to the Humber Estuary SPA, SAC and Ramsar site it is likely that the project will have a significant effect alone and/or in combination with other plans and projects.</p> | <p>Should this application come forward it will have substantial implications for the Humber Estuary SAC, SPA and Ramsar site.</p> <p>Without mitigation there is potential for in combination effects with employment development within Policy CS12 of the Core Strategy DPD.</p> <p>However, in order for the Able UK development to be granted planning permission it will be necessary for the project to be assessed against the Habitat Regulations. This will require the project to be subject to the relevant stages of the HRA process: Stage 1 – Screening, Stage 2 – Appropriate Assessment, Stage 3 – Assessment of Alternative Solutions and Stage 4 - IROPI if necessary. This will require Able UK to work closely with the Competent Authority</p>   |

<sup>20</sup> Letter from Peter Nottage (Natural England) to Simon Driver (North Lincolnshire Council) titled *Humber Estuary Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site: Planning application by Able UK – Application no. PA/2009/0600* (dated 13<sup>th</sup> October 2010).

| Project or Plan                       | Details   | Result of HRAs   | Potential for In Combination effects with Core Strategy DPD   |
|---------------------------------------|---|--|---|
|                                       |   |  | <p>(IPC), Natural England and the RSPB. Where necessary, appropriate mitigation measures for the Marine Energy Park will need to be agreed with Natural England and RSPB (to ensure adverse effects on integrity of the Humber Estuary international sites do not occur). Should the project progress to Stage 4 of the HRA process it will be necessary for Able UK to agree suitable compensatory measures to offset the negative effects with the Secretary of State, Natural England and RSPB. Only once the mitigation measures or compensatory measures have been agreed with the relevant bodies will the project be granted planning permission.</p> <p>The mitigation measures set out in this Plan (in combination with any mitigation or compensatory measures to be put forward by Able UK) will ensure that there are no in combination effects.</p> |
| Drax Biomass                          | <p>Application ref PA/2009/1269: To be determined by IPC.</p> <p>Located South Killingholme, North Lincolnshire. The proposal is to construct and operate a 290 MW renewable energy plant on a site allocated for industrial development within the South Humber Bank industrial area close to the port of Immingham within the North Lincolnshire administrative area.</p> | <p><b>Conclusion:</b> Stage 1 Screening by North Lincolnshire found likely significant effects on SAC estuary habitats and lamprey from chemical and thermal pollution, as well as noise and visual disturbance at Rosper Pools that could affect birds from Humber Estuary SPA and SAC.</p> <p>Mitigation in the form of the following will be employed at the site to prevent likely significant effects on the Humber Estuary international sites: screening (to prevent effects from visual disturbance); measures to ensure noise levels within Rosper Road Pools do not exceed 70 d(B) LAeq (1 hour) during construction; timing of piling works to be carried out between April to June inclusive (to prevent disturbance causing significant impacts on SPA bird populations); and, habitat improvements within the adjacent Rosper Road Pools Nature Reserve (to benefit SPA waterfowl species) Based on information available, it is understood that the Stage 2 HRA has not yet been completed.</p> | <p>There is potential for in combination effects with employment development set out in the policies of this Plan.</p> <p>Drax Biomass will need to agree appropriate mitigation with Natural England to ensure adverse effects do not occur.</p> <p>The mitigation measures set out in this Plan (in combination with any mitigation measures to be put forward by Drax Biomass) will ensure that there are no in combination effects.</p>   |
| North East Lincolnshire Core Strategy | Stage 1 - Screening of the Core Strategy has been completed (in September   | <b>Conclusion:</b> A total of three policies were determined to lead to likely significant effects on the Humber   | There is potential for in combination effects with development set out in the policies of this Plan.  |

| Project or Plan  | Details  | Result of HRAs  | Potential for In Combination effects with Core Strategy DPD   |
|--|--|---|---|
|  | 2010).<br>Stage 2 – Appropriate Assessment is currently being carried out.           | Estuary international sites.<br>Stage 2 of the HRA process is currently being completed. This includes the three policies identified at Stage 1 and an additional two (due to changes in the Plan between HRA stages). The findings of the Stage 2 have not been issued to Natural England.   | North East Lincolnshire Council will need to agree appropriate mitigation with Natural England to ensure adverse effects do not occur.<br>The mitigation measures set out in this Plan (in combination with any mitigation measures to be put forward by North East Lincolnshire Council) will ensure that there are no in combination effects. |
| North Lincolnshire Housing and Employment Land Allocations DPD | Stage 1 - Screening and Stage 2 – Appropriate Assessment completed in November 2010. | <b>Conclusion:</b> Stage 2 of the HRA process determined that there would be no adverse effects on integrity of the Humber Estuary international sites or the Thorne and Hatfield Moors international sites once mitigation was in place. The findings were signed off by North Lincolnshire Council on 13 <sup>th</sup> November 2010. | <b>None:</b> No adverse effects identified once mitigation is in place.   |



## 5. Stage 2 – Appropriate Assessment

### 5.1 Summary of the Results of Stage 1 – Screening

A total of eight of the policies in the Core Strategy DPD may lead to likely significant effects on the Humber Estuary SAC/SPA/Ramsar site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA. These are Policies:

- CS1 – Spatial Strategy for North Lincolnshire;
- CS4 – Creating a Renaissance in North Lincolnshire;
- CS7 – Overall Housing Provision;
- CS8 – Spatial Distribution of Housing;
- CS11 – Provision and Distribution of Employment Land;
- CS12 – South Humber Bank Strategic Employment Site;
- CS21 – Minerals; and,
- CS26 – Strategic Transport Infrastructure Proposals.

The Stage 1 – Screening determined that these policies may, in summary, lead to:

- **Habitat degradation and/or loss within the Humber Estuary SAC, the Thorne Moor SAC and the Hatfield Moor SAC:** Due to increased recreational pressure, water pollution, air pollution and, in relation to the Thorne Moor SAC and Hatfield Moor SAC only, increased water abstraction from the underlying aquifer;
- **Loss of functional parts of the Humber Estuary SPA/Ramsar site and Thorne and Hatfield Moors SPA located outside of the boundaries of the designated sites (in relation to qualifying bird species):** Due to land take for new housing, employment and transport schemes; and,
- **Increased levels of visual and noise disturbance to the internationally important bird populations and/or assemblages from the Humber Estuary SPA/Ramsar site and Thorne and Hatfield Moors SPA:** Due to increased levels of recreational activity within these sites and also the construction and operation of new development adjacent to these sites.

### 5.2 The Policies

In order to complete a full and thorough assessment of each of the eight policies outlined above as part of this Stage 2 – Appropriate Assessment, the development related proposals (development aspects) in each of the policies have been identified (see Tables 5.1 to 5.8 below). In certain circumstances, it has been possible to conclude a development related proposal requires no further assessment as part of this Stage 2 – Appropriate Assessment.

Tables 5.1 to 5.8 outline the development aspects of each policy. They also identify which development aspects require more detailed assessment and assigns these a development reference number to make it easier to identify each in the further assessments set out later in this report.

Table 5.9 at the end of Section 5 provides a summary of the Appropriate Assessment of each development aspect for the eight policies.



**Table 5.1: Development Related Proposals within Policy CS1 – Spatial Strategy for North Lincolnshire**

| Development Aspect  | Additional Details   | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|---|--|--|------------------------------|
| Provision of 9,892 new dwellings in Scunthorpe  | No specific locations for housing provided in policy or supporting text.                     | Yes: To be assessed in detail as part of Policy CS8  | CS8a                         |
| Provision of 2,171 new dwellings in Market Towns  | No specific locations for housing provided in policy or supporting text.                     | Yes: To be assessed in detail as part of Policy CS8  | CS8b to CS8d                 |
| Delivery of Lincolnshire Lakes  | Developing a major waterside setting to the west of Scunthorpe to deliver up to 6,000 homes. | Yes: To be assessed in detail as part of Policy CS4  | CS4a                         |
| Development of key strategic employment sites at the South Humber Bank (around 900 ha of land to be safeguarded). | See Policy CS12  | Yes: To be assessed in detail as part of Policy CS12 | CS12a                        |
| Major upgrades to rail network in and around the ports and duelling the A160 between the A180 and the port.       | See Policy CS26  | Yes: To be assessed in detail as part of Policy CS26 | CS26a                        |
| Development of key strategic employment sites at the Humberside Airport (20 ha of land to be allocated)           | See Policy CS11  | <b>No:</b> See Policy CS11                           | -                            |
| Development of key strategic employment sites at Sandtoft Airfield  | See Policy CS11  | Yes: To be assessed in detail as part of Policy CS11 | CS11c                        |

The details relating to the each of the development related proposals in Policy CS1 are provided in more detail in other Policies within the Core Strategy DPD. Therefore, to avoid repetition, it is appropriate to carry out a full and thorough assessment of the more detailed Policies (including CS4, CS8, CS11, CS12 and CS26).

**Table 5.2: Development Related Proposals within Policy CS4 – Creating a Renaissance in North Lincolnshire**

| Development Aspect             | Additional Details   | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|--------------------------------|--|--|------------------------------|
| Delivery of Lincolnshire Lakes | Developing a major waterside setting to the west of Scunthorpe to deliver up to 6,000 homes. | Yes  | CS4a                         |

There are other development related aspects of this policy. However these were screened out as part of the Stage 1 – Screening report<sup>21</sup>.

**Table 5.3: Development Related Proposals within Policy CS7 – Overall Housing Provision**

| Development Aspect  | Additional Details  | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|---|---|--|------------------------------|
| Provision of 12,063 new dwellings over the plan period (with 3,482 already delivered) | Policy does not provide any detail about locations of new housing developments in North Lincolnshire (this is covered by Policy CS8). | Yes: To be assessed in detail as part of Policy CS8  | CS8a to CS8f                 |

The details relating to the provision of housing and the broad locations for these additional dwellings is detailed in Policy CS8 – Spatial Distribution of Housing. Therefore, to avoid repetition, it is more appropriate to carry out a full and thorough assessment of the more detailed Policy CS8.

<sup>21</sup> North Lincolnshire Council: Core Strategy Submission Draft (May 2010) Habitats Regulations Assessment: Stage 1 – Screening (Amended) (produced by Atkins in August 2010)

**Table 5.4: Development Related Proposals within Policy CS8 –Spatial Distribution of Housing**

| Development Aspect  | Additional Details  | Further assessment within this Stage 2 HRA required?  | Development Reference Number |
|---|---|---|------------------------------|
| 9,892 new dwellings to be provided in Scunthorpe (2,642 with planning permission or under construction) | 6,000 houses to be provided by Lincolnshire Lakes and 1,250 being provided elsewhere in the urban area  | Yes   | CS8a                         |
| 724 new dwellings to be provided in Barton upon Humber  | -   | Yes   | CS8b                         |
| 844 new dwellings to be provided in Brigg   | -   | <b>No:</b> This housing allocation falls within the Green Zone. Any development in this location is considered not to lead to adverse effects on the integrity of the six international sites.  | -                            |
| 145 new dwellings to be provided in Crowle  | -   | Yes   | CS8c                         |
| 181 new dwellings to be provided in Kirton in Lindsey   | -   | <b>No:</b> This housing allocation falls within the Green Zone. Any development in this location is considered not to lead to adverse effects on the integrity of the six international sites.  | -                            |
| 277 new dwellings to be provided in Winterton   | -   | Yes   | CS8d                         |
| Small scale infill development in rural settlements (if opportunities arise)                            | Development will come forward on a case by case basis only. It will not be detailed in any lower tier planning documents. However any planning applications that arise will be assessed against the Core Strategy DPD<br><br>The policy does not provide any indicative locations for development (only rural settlements). | <b>No:</b> Should any planning applications arise as a result of this policy, all other policies within the Plan will be taken into account and used as the basis for decision making to determine the application.<br><br>Therefore, any planning application would also have to take into account the possibility of adverse effects on the qualifying features of the international sites resulting from the proposed works, through consideration of Policies CS1 and CS17 (provisions are present within these policies that seek to protect the international sites). | -                            |

| Development Aspect | Additional Details | Further assessment within this Stage 2 HRA required?   | Development Reference Number |
|--------------------|--------------------|--|------------------------------|
|                    |                    | <p>The Plan also commits to an HRA at the development control stage (as in accordance with the text in Section 3 of the Plan). The HRA of any proposed development will have to prove that the work will not have adverse effects on the international sites (or that adverse effects can be adequately mitigated). If it cannot be proven that there will be no adverse effects on these international sites and/or it is not possible to mitigate for these impacts the council will not allow the development to be constructed.</p> <p>As no specific locations or quanta for development are provided within the policy, this approach to the HRA process will not affect the deliverability of the plan.</p> <p>Therefore, there are no adverse effects on the integrity of the international sites from this development aspect of this policy.</p> |                              |

**Table 5.5: Development Related Proposals within Policy CS11 – Provision and Distribution of Employment Land**

| Development Aspect                                     | Additional Details  | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|--|---|--|------------------------------|
| 71 ha of employment land to be allocated in Scunthorpe | <p>Scunthorpe North: B1, B2 and B8 uses.</p> <p>Town Centre: B1 and town centre uses.</p> <p>Scunthorpe West: B1, high quality business park as part of Lincolnshire Lakes scheme</p> | Yes  | CS11a                        |

| Development Aspect   | Additional Details  | Further assessment within this Stage 2 HRA required?  | Development Reference Number |
|--|---|---|------------------------------|
| 10 ha of employment land to be allocated in Market Towns             | Small and medium scale employment opportunities to be encouraged in the Market Towns of Barton upon Humber, Brigg, Crowle, Kirton in Lindsey and Winterton. | Yes   | CS11b                        |
| 20 ha of employment land to be allocated at Humberside airport       | To be developed for B1 (Business/Light Industrial), and B8 (Storage and Distribution) uses.   | <b>No:</b> This employment allocation falls within the Green Zone. Any development in this location is considered not to lead to adverse effects on the integrity of the international sites. | -                            |
| 58.5 ha of employment land to be allocated at Sandtoft Business Park | -   | Yes   | CS11c                        |

**Table 5.6: Development Related Proposals within Policy CS12 – South Humber Bank Strategic Employment Site**

| Development Aspect  | Additional Details                                 | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|---|--|--|------------------------------|
| 900 ha of employment land to be allocated at the South Humber Bank Strategic Employment Site        | Reserved for B1, B2 and B8 port related activities | Yes  | CS12a                        |
| Safeguarding the site frontage to the deep water channel for the development of new port facilities | -  | Yes  | CS12b                        |
| Development of new pipe routes needing access to the frontage                                       | -  | Yes  | CS12c                        |
| Opportunity for new port along the River Humber frontage  | Between Immingham port and Humber Sea Terminal     | Yes  | CS12d                        |

| Development Aspect   | Additional Details   | Further assessment within this Stage 2 HRA required?   | Development Reference Number |
|--|--|--|------------------------------|
| A160/A180 Highway Improvement Scheme   | -  | Yes: To be assessed in detail as part of Policy CS26   | CS26a                        |
| Network Rail Freight Utilisation Strategy for line speed and signalling improvements between Immingham and Doncaster | -  | Yes: To be assessed in detail as part of Policy CS26   | CS26f                        |
| Network Rail Freight Utilisation Strategy for line speed and signalling improvements at Killingholme Loop            | -  | Yes: To be assessed in detail as part of Policy CS26   | CS26h                        |
| Improving access to the ports  | Links to surrounding settlements, through public transport, cycling and walking  | Yes  | CS12e                        |
| Drainage Feasibility Study   | Surface water and sewage management solutions to accommodate the SHBSES. Put forward by the North East Lindsey Drainage Board (NELDB). | <p><b>No:</b> It has been agreed with North Lincolnshire Council and Natural England that the reference to the Drainage Feasibility Study in Policy CS12 will be removed and replaced with the following sentence (or similar): <i>“It is hoped that a drainage programme can be delivered without harming the natural environment”</i>.</p> <p>The existing text in Policy CS12 states that the work will be completed in autumn 2010. This statement prejudices a project which Natural England considers has a likely significant effect on the Humber Estuary international sites. The work has not yet been completed due to the issue surrounding HRA which is still subject to agreement between the NELDB and Natural England. Altering this text in the Core Strategy DPD will remove this presumption towards this development but will still allow the delivery of it should the HRA being carried out by NELDB find the drainage feasibility study has no likely significant effects on the international sites.</p> | -                            |

| Development Aspect                                       | Additional Details   | Further assessment within this Stage 2 HRA required?  | Development Reference Number |
|--|--|---|------------------------------|
|  |  | Therefore, there is no further assessment required in this HRA document.  |                              |
| Safeguard and improve flood defences from tidal flooding | <p>The policy refers to the Environment Agency's Humber Defence Strategy (2008) and the safeguarding and improvement of flood defences in the SHBSES.</p> <p>The Policy states that flood defences in the SHBSES will be safeguarded and improved through partnership working with the Environment Agency and its <i>Humber Flood Defence Strategy</i> (March 2008), North Lincolnshire Council, North East Lincolnshire Council, Yorkshire Forward, landowners and industry. It then goes on to state that this will include managing the predicted effects of climate change in harmony with the development of port related activities by managing and minimising the risk of flooding.</p> | <p><b>No:</b> This part of the policy does not provide any specific details of the works to be completed to safeguard and improve flood defences. The <i>Humber Flood Defence Strategy</i> (the <i>Humber Flood Risk Management Strategy</i><sup>22</sup>) was produced by the Environment Agency and was adopted in 2008. This has been subject to the HRA process and the findings are currently being agreed between the Environment Agency and Natural England (see Table 4.1 in Section 4 above). The <i>Humber Flood Defence Strategy</i> says the Environment Agency will meet their obligation under the Habitats Regulations by creating new inter-tidal habitat to replace the losses caused by the strategy, as set out in their <i>Coastal Habitat Management Plan</i>. This will be done by acquiring land where defences can be moved back when new habitat is needed in that part of the estuary. Some sites have already been identified for this purpose and include the following: Paul Holmes, Alkborough, Donna Nook, Skeffling, Welwick, Keyingham and Goxhill.</p> <p>The <i>Humber Flood Defence Strategy</i> splits the Humber Estuary into 27 flood areas and sets out the proposed management approach and potential timescales for delivery. More detailed work will be carried out by the Environment Agency in each of the management areas as projects come forward and will be subject to the Habitat Regulation</p> | -                            |

<sup>22</sup> It has been agreed with North Lincolnshire Council that Policy CS12 will be amended to refer to the *Humber Flood Risk Management Strategy* rather than the *Humber Flood Defence Strategy* in Policy CS12.

| Development Aspect | Additional Details | Further assessment within this Stage 2 HRA required?  | Development Reference Number |
|--------------------|--------------------|---|------------------------------|
|                    |                    | <p>Assessment.</p> <p>It is up to the Environment Agency (as the competent authority) to complete the necessary stages of the HRA process to the satisfaction of Natural England for each of the 27 flood areas within the <i>Humber Flood Defence Strategy</i>, and to prove that there will not be adverse effects on the international sites. It is understood that HRAs are currently being carried out by the Environment Agency following advice from Natural England.</p> <p>As no specific projects are detailed within the policy, the outcome of the HRA work to be completed by the Environment Agency for each element of the <i>Humber Flood Defence Strategy</i> will not affect the deliverability of the Core Strategy.</p> |                              |

Table 5.7: Development Related Proposals within Policy CS21 – Minerals

| Development Aspect   | Additional Details   | Further assessment within this Stage 2 HRA required?                                 | Development Reference Number |
|--|--|--|------------------------------|
| Safeguard silica sand reserves adjacent to/west of North Moor Road, Messingham                       | -  | Yes  | CS21a                        |
| Safeguard silica sand reserves east of Scallow Grove and adjacent to/east of Kirton Road, Messingham | -  | Yes  | CS21b                        |
| Safeguard silica sand reserves adjacent to/west of the Lincoln Edge to the north-west of Manton      | Located approximately 9.5 km south-east of Humber Estuary SAC and Ramsar site and 18.2 km south- | <b>No:</b> This site has obtained planning permission and is currently being worked. | -                            |



| Development Aspect  | Additional Details   | Further assessment within this Stage 2 HRA required?   | Development Reference Number |
|---|--|--|------------------------------|
|   | east of Humber Estuary SPA.<br>Located approximately 19.7 km south-east of Thorne Moor SAC, 18.7 km east of Hatfield Moor SAC and 19.1 km east of Thorne and Hatfield Moors SPA.   |  |                              |
| Safeguard silica sand reserves at Black Nook Wood.  | -  | Yes  | CS21c                        |
| Safeguard sand and gravel reserves west of Willow Holt, Flixborough.                                    | Located approximately 860 m east of Humber Estuary SAC and Ramsar site and 6.3 km south of Humber Estuary SPA.<br>Located approximately 10.8 km east of Thorne Moor SAC, 16.2 km east of Hatfield Moor SAC and 10.8 km east of Thorne and Hatfield Moors SPA.                    | <b>No:</b> This site has obtained planning permission and is currently being worked.         | -                            |
| Safeguard sand and gravel reserves at Cove Farm, Haxey  | Located approximately 14.2 km south-west of Humber Estuary SAC and Ramsar site and 22.9 km south of Humber Estuary SPA.<br>Located approximately 10.8 km east of Thorne Moor SAC, 3.4 km south-east of Hatfield Moor SAC and 3.4 km south-east of Thorne and Hatfield Moors SPA. | <b>No:</b> This site has obtained planning permission and is currently being worked.         | -                            |
| Safeguard clay reserves adjacent to/east of Barrow Tileries, Barrow Haven.                              | -  | Yes  | CS21d                        |
| Safeguard clay reserves adjacent to/north of Far Ings Road and north of South Marsh Farm to the east of | <b>Far Ings Road:</b> Located approximately 190 m south of   | <b>No:</b> These two sites have obtained planning permission and are currently being worked. | -                            |

| Development Aspect  | Additional Details   | Further assessment within this Stage 2 HRA required?                                 | Development Reference Number |
|---|--|--|------------------------------|
| Falkland Way, Barton upon Humber.   | <p>Humber Estuary SAC, SPA and Ramsar site.</p> <p>Located approximately 27 km north-east of Thorne Moor SAC, 34 km north-east of Hatfield Moor SAC and 27 km north-east of Thorne and Hatfield Moors SPA.</p> <p><b>Falkland Way:</b> Located immediately adjacent to the Humber Estuary SAC, SPA and Ramsar site.</p> <p>Located approximately 28.8 km north-east of Thorne Moor SAC, 35.1 km north-east of Hatfield Moor SAC and 28.8 km north-east of Thorne and Hatfield Moors SPA.</p> |  |                              |
| Safeguard clay reserves west of Low Melwood Farm adjacent to the C204 between Epworth and Owston Ferry. | <p>Located approximately 9.1 km south-east of Humber Estuary SAC and Ramsar site and 19.3 km south of Humber Estuary SPA.</p> <p>Located approximately 12.4 km south-east of Thorne Moor SAC, 6.8 km east of Hatfield Moor SAC and 6.8 km east of Thorne and Hatfield Moors SPA.</p>   | <b>No:</b> This site has obtained planning permission and is currently being worked. |                              |
| Safeguard ironstone reserves to the east of Yarborough Gullet.  | -  | Yes  | CS21e                        |

**Table 5.8: Development Related Proposals within Policy CS26 – Strategic Transport Infrastructure Proposals**

| Development Aspect   | Additional Details  | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|--|---|--|------------------------------|
| <b>Road:</b> Dualling of A160 South Humber Bank access road between the A180(T) and South Killingholme                                       | Including associated improvements to junctions along the route and the port entrance.<br>To be completed by 2014/2015     | Yes  | CS26a                        |
| <b>Road:</b> Dualling or upgrading of the A15 between M180 Junction 4 and the A46(T) Lincoln Bypass  | To enable more efficient movement of freight between the South Humber ports and the A1(T) at Newark.                      | Yes  | CS26b                        |
| <b>Road:</b> Access improvements to Scunthorpe from the West   | Improvements at Berkeley Circle and to provide access to the Lincolnshire Lakes area                                      | Yes  | CS26c                        |
| <b>Road:</b> Improvements to the A18 and local roads   | To provide access to proposed logistics park at Sandtoft Airfield   | Yes  | CS26d                        |
| <b>Road:</b> Potential realignment of the A1077 west of South Ferriby  | To be completed only if the Environment Agency no longer continue to maintain all flood defences along the Humber Estuary | Yes  | CS26e                        |
| <b>Rail:</b> Upgrades to the South Humber Main Line between Doncaster and Immingham  | To be completed between 2007 and 2014.  | Yes  | CS26f                        |
| <b>Rail:</b> Improvements to the Brigg line and the Wrawby junction area   | To support access to the South Humber Bank Ports  | Yes  | CS26g                        |
| <b>Rail:</b> Restoration of the rail access to the northern section of the South Humber Bank Industrial Area to create the Killingholme Loop | Through the use of the former rail alignment between Goxhill and South Humber Bank Area. To be                            | Yes  | CS26h                        |

| Development Aspect  | Additional Details   | Further assessment within this Stage 2 HRA required? | Development Reference Number |
|---|--|--|------------------------------|
|   | completed post 2015.   |  |                              |
| <b>Airport Surface Access:</b> Improved international connections at Humberside Airport by delivering road and rail surface access improvements | Improvement road access from M180 and improved rail access to Barnetby to Cleethorpes railway line, commensurate to the expected growth of the airport | Yes  | CS26i                        |
| <b>Water Transport Schemes:</b> Encouraging increased barge/boat movements inland from the South Humber Bank ports to transfer goods            | -  | Yes  | CS26j                        |
| <b>Scunthorpe Urban Renaissance:</b> Transport improvements for road and rail access in Scunthorpe and at the Lincolnshire Lakes                | -  | Yes  | CS26k                        |

## 5.3 Policy CS1 - Spatial Strategy for North Lincolnshire

As outlined in Table 5.1 above, the details relating to the each of the development related proposals in Policy CS1 are provided in more detail in other policies within the Core Strategy DPD. Development aspects include the provision of new dwellings in Scunthorpe and Market Towns, the delivery of Lincolnshire Lakes , development of strategic employment sites (at the South Humber Bank, Humberstone Airport and Sandtoft Airfield) and upgrades to the rail network in and out of the South Humber Bank ports.

Therefore, to avoid repetition, the further assessment has been completed on the following policy development aspects (see below):

- CS4a;
- CS8a to CS8f;
- CS11b to CS 11c;
- CS12a to CS12f; and,
- CS26a.

## 5.4 Policy CS4 - Creating a Renaissance in North Lincolnshire

### 5.4.1. Development 4a – Delivery of Lincolnshire Lakes

This policy states that the Lincolnshire Lakes will be a major waterside setting to the west of Scunthorpe providing a high quality environment in which to live and work and a significant wildlife habitat. The supporting text states that 6,000 new homes will be provided up to 2026 as part of the Lincolnshire Lakes development.

The exact location of development is not provided within the Plan, although the Key Diagram provides an indication of the area to the west of Scunthorpe where this site may be located. The indicative location extends from the western edge of Scunthorpe to the River Trent. The southern boundary is made up by the M180 and the northern boundary runs to the north of the A18. This site will be delivered through an Area Action Plan.

This proposed development is located adjacent to the River Trent (which is covered in part by the Humber Estuary SAC and Ramsar site designation). The northern part of the Lincolnshire Lakes site appears to be located adjacent to the southern extent of the Humber Estuary SAC and Ramsar site (northwards of the railway line south of the A18). The Humber Estuary SPA is located approximately 9.1 km north. The Thorne Moors SAC and Thorne and Hatfield Moors SPA are located approximately 9 km west and the Hatfield Moor SAC is located approximately 11.5 km south-west.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

#### ***Physical Loss***

Given the distances between the Lincolnshire Lakes site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no direct physical loss to these sites. Given the distance from this development to the Thorne and Hatfield Moors SPA, it is considered that there will be no indirect physical loss of habitats used by the qualifying bird species, nightjar (Natural England have confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats).

However, depending on the specific boundaries of the Lincolnshire Lakes development, there is the potential for a conflict with the Humber Estuary SAC, SPA and Ramsar site. The proposed development appears to directly abut the River Trent (part of the Humber Estuary SAC and Ramsar site). However, it is unlikely that housing will be built within the boundary of the SAC or Ramsar site. This is due to Policy CS17 – Biodiversity in the Core Strategy DPD which states that internationally protected sites will be safeguarded from inappropriate development (thus the SAC and Ramsar site are protected by this policy).

However, birds from the Humber Estuary SPA and Ramsar site may be using the Greenfield parts of the Lincolnshire Lakes development for foraging or high tide roosting purposes. Development of this land may cause the loss of land that birds from the Humber Estuary SPA and Ramsar site are using. A survey of an area of land within the proposed location for the Lincolnshire Lakes was undertaken in 2007 (planning permission reference PA/2007/0828). This was in support of an EIA for proposed development of 1,279 new dwellings. The surveys found low numbers of SPA birds using the site. However, Natural England responded as being satisfied that there would be no likely significant effects on the Humber Estuary SAC, SPA and Ramsar site.

Furthermore, the Lincolnshire Lakes site is intending to provide an opportunity for biodiversity and habitat creation. This may present an opportunity to provide habitats suitable for birds from the Humber Estuary SPA and Ramsar site to use (if they are displaced by the development).

However, a potential conflict between the provision of the Lincolnshire Lakes and the conservation objectives for the international sites may occur. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

Given the distances between the Lincolnshire Lakes site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no physical damage to these sites.

Physical damage is not considered to be likely to cause deterioration to the Humber Estuary SAC habitats<sup>23</sup>.

However, due to the extremely close proximity of the Lincolnshire Lakes to the River Trent (which forms part of the Humber Estuary SAC and Ramsar site), there is the potential for an increase recreational use of this part of the river. The intertidal areas of the River Trent are of a steep nature and have a relatively low ecological value when compared to the mudflat habitat in the wider estuary<sup>24</sup>. Recreational activities (such as walking) could cause physical damage to the SAC through the abrasion of habitats. However, the Lincolnshire Lakes site is intending to provide large areas of green space and areas for wildlife. It is likely that local residents will visit these areas in preference to the River Trent.

Without mitigation, the Lincolnshire Lakes development could cause a potential conflict between the provision of housing at this location and the conservation objectives for the international sites and may lead to adverse effects on integrity of the Humber Estuary SAC, SPA and Ramsar site.

### ***Non-Physical Disturbance***

Given the distance to the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no non-physical disturbance to these international sites and as such no adverse effects on integrity to these international sites.

The River Trent (the most southerly part of the Ramsar site) is located immediately adjacent to the proposed Lincolnshire Lakes development. Both the Humber Estuary SPA and Ramsar site are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. Construction of housing in this location is likely to increase the levels of non-physical disturbance at the most southern extent of the Humber Estuary Ramsar site. However, the results of the WeBs Humber Estuary Low Tide Count Programme carried out in 2003 and 2004 confirmed that only the following species were using the River Trent and only in small numbers: shelduck, redshank, wigeon, lapwing, curlew, teal, oystercatcher and mallard<sup>25</sup>. This suggests that the River Trent does not form as important a habitat for birds from the SPA and Ramsar site as other areas of the Humber Estuary. Therefore, it will not be as vulnerable to non-physical disturbance as other parts of the Humber Estuary.

Development in this location may also lead to non-physical disturbance to qualifying bird species of the SPA and Ramsar which are using habitats outside of the international site (Natural England have confirmed that birds from this site are likely to travel up to 7 km from the SPA and Ramsar site to get

<sup>23</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>24</sup> HARBASINS Report: Habitat Status of the Humber Estuary, UK [FINAL] Prepared by: Institute of Estuarine & Coastal Studies (IECS), University of Hull, UK (April 2008)

<sup>25</sup> Humber Estuary Low Tide Count Programme 2003-2004, English Nature Research Report 656 (March 2005)

to foraging and high tide roosting habitats). This would include non-physical disturbance to areas of green space that are immediately adjacent to the proposed development during construction and operation of the site. However, as outlined above, a survey of an area of land within the proposed location for the Lincolnshire Lakes was undertaken in 2007 (planning permission reference PA/2007/0828). This survey found low numbers of SPA birds using this part of the Lincolnshire Lakes site.

The development in this location may lead to an increase in boat traffic on the River Trent. This has the potential to disturb habitats and the lamprey species using the river. However, having studied the Regulation 33 advice for these international sites<sup>26</sup>, it is not considered that the lamprey species are vulnerable to increases of boat traffic. Increased boat traffic may lead to an increase in disturbance on breeding and wintering birds along the Trent.

Therefore, a potential conflict between the provision of housing at this location and the conservation objectives for the Humber Estuary SPA and Ramsar site may occur. Without mitigation, this may lead to adverse effects on the integrity of the Humber Estuary SPA and Ramsar site.

### ***Changes in Water Quality***

The Humber Estuary SAC, SPA and Ramsar and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are vulnerable to changes in water quality through toxic and non-toxic contamination. The development will be undertaken in accordance with Policy CS18 - Sustainable Resource Use and Climate Change which seeks to ensure that developments protect water quality.

#### *Humber Estuary International Sites*

Effluent from sewage works, industry and agricultural inputs are the principal source of contaminants in the Humber. The operation of combined sewer overflows is an intermittent source of pollution and mostly affects inland rivers (such as the Ouse and the Trent). Between 1998 and 2001, significant investment was put into improving sewage inputs in the Cleethorpes/Grimsby area to ensure compliance with the Bathing Water Directive standards.

The high turbidity of the estuary greatly reduces light penetration into the water, which suppresses the growth of algae, which, in such a nutrient-rich environment, would otherwise likely cause adverse affects (such as smothering of benthic communities).

A study by Boyes and Elliott (2006)<sup>27</sup> concluded that although the Humber Estuary is high in nutrients (hypertrophic) there is no evidence of an undesirable disturbance to the balance of organisms and water quality within the estuary. The estuary was not considered to be eutrophic and was not showing any symptoms of being eutrophic and showed features of a normal estuary (in terms of dissolved oxygen levels).

Not all biodegradable organic matter comes from human sources; significant inputs can come naturally from wetlands. There is a suggestion in Boyes and Elliott (2006) that the estuary's organic balance is being maintained by anthropogenic inputs which appear to have replaced the natural organic inputs from land claimed wetlands.

The conclusion of the Environment Agency's Review of Consents 2008<sup>28</sup>, in relation to existing discharge licences, was that modifications could be made to those licences where modification was

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<sup>26</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>27</sup> Boyes & Elliott. Organic matter and nutrient inputs to the Humber Estuary, England Marine Pollution Bulletin 53 (2006) 136–143

<sup>28</sup> Environment Agency Humber Estuary Review of Consents 2000-2008



required, such that there would then be no adverse effect on the integrity on the Humber Estuary as a result of existing discharge licences

It is considered that under current conditions that there will be no changes in water quality leading to adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site.

#### *Thorne and Hatfield Moors International Sites*

The Environment Agency has completed a Review of Consents for the Thorne and Hatfield Moors International sites (completed in 2005)<sup>29</sup>. Stages 1 and 2 of the Review of Consents process screened out all but two water quality discharge consents (both to surface water) as having no likely significant effects on the Thorne and Hatfield Moors international sites. The two remaining discharge consents were taken through to Stage 3 for review. During Stage 3 it was concluded that these discharges had no physical pathway to enter the site and it was therefore concluded that these consents were having no adverse effect on the integrity of the Thorne and Hatfield Moors.

It is considered that under current conditions that there will be no changes in water quality leading to adverse effects on the integrity of the Thorne and Hatfield Moors international sites.

#### **Water Abstraction**

Following recent discussions with Natural England (27/09/2010), it is considered that water use for residential use is not having a significant effect on the integrity of the Thorne and Hatfield Moors international sites. This follows studies on the effects of growth of Doncaster, a conurbation closest to these international sites, which found that abstraction was not having likely significant effects on the SACs or the SPA.

The Humber Estuary SAC, SPA and Ramsar is vulnerable to impacts through water abstraction and changes in water flow. An increase in housing numbers will increase water demand and thus abstractions. Currently, Anglian Water supply drinking water and sewerage services to the majority of the North Lincolnshire area, and those supplies which potentially affect the Humber Estuary. Scunthorpe is supplied from boreholes within the Lincolnshire Limestone group (Lincolnshire Wolds') at Winterton Holmes near Winterton. Boreholes around Barrow on Humber supply the rest of the North Lincolnshire Council to the East of the River Trent. The water companies have produced a Water Resource Management Plan (WRMP) which commits that any works carried out for this management plan should avoid damaging designated sites<sup>30</sup>.

Following the UK Government's interpretation of the Habitats Directive into the Habitats Regulations it has been concluded by Anglian Water that an Appropriate Assessment of the WRMP is not required. This is because the WRMP is not classified as a land use plan and does not set a statutory framework for permitted development. Natural England has confirmed that they are in agreement with this conclusion.

The South Humberside Water Cycle Scoping Study (2008)<sup>31</sup> reports a surplus of water in the South Humberside Resource Zone. Models predict a surplus in the region until the year 2030, even under scenarios with housing growth rates being 20% higher than preferred and no efficiency measures put in place.

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<sup>29</sup> Habitats Directive Review of Consent Stage 3 Appropriate Assessment - Thorne Moor candidate Special Area of Conservation (cSAC), Hatfield Moor Candidate Special Area of Conservation (cSAC) and Thorne & Hatfield Moors Special Protection Area (SPA) (produced by the Environment Agency in February 2005)

<sup>30</sup> Anglian Water Services Limited Water Resources Management Plan Strategic Environmental Assessment Environmental Report 2008

<sup>31</sup> Halcrow (2008) South Humberside water cycle scoping study.

The Environment Agency regulates the licensing of abstraction through the Catchment Abstraction Management Plan<sup>32</sup>. Within this document it is stated that *'if it cannot be determined that your application will not affect the (international) site we have to either put conditions on the licence so that it cannot affect the site or refuse the application. If we grant the licence we may ask you to monitor its impact.'*

The conclusion of the Environment Agency Review of Consents process, in relation to existing abstraction licences, was that modifications could be made to those licences where modification was required, such that there would then be no adverse effect on the integrity on the Humber Estuary as a result of existing abstraction licences<sup>33</sup>.

Based on the Environment Agency's Review of Consents in 2008, The South Humberside Water Cycle Study (2008), Anglian Water's WRMP and the baseline conditions at the inner and middle estuary, it is not considered that water abstraction as a result of housing provision within North Lincolnshire will have an adverse effect on the integrity of the Humber Estuary SAC, SPA or Ramsar site.

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<sup>32</sup> The Environment Agency. 2006. The Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy

<sup>33</sup> Environment Agency. 2008. Marshall, B and Coleclough, M Habitats Directive case study - Humber Estuary

## 5.5 Policy CS7 – Overall Housing Provision

As outlined in Table 5.3, Policy CS7 states that 12,063 new dwellings will be provided within the Plan period. A total of 3,482 dwellings already have planning permission or are under construction (leaving a total of 8,581 dwellings to be provided). However, the policy gives no details of where housing is to be provided within North Lincolnshire. This information is provided in Policy CS8 – Spatial Distribution of Housing.

Therefore, to avoid repetition, the further assessment has been completed on the developments likely to arise from Policy CS8: Developments CS8a to CS8f (see Section 5.6 below).

However, it is appropriate to note here that the provision of 8,581 new dwellings will lead to a population increase in North Lincolnshire. Detailed assessments of each area where dwellings are to be provided are given in Section 5.6 below (Developments CS8a to CS8f). Individually these developments are not anticipated to have any adverse effects on integrity of the international sites through recreation. Taken together, it is also considered that all 8,581 houses will not lead to adverse effects on international sites through recreation. Therefore it can be concluded that the overall provision of 8,581 new dwellings across North Lincolnshire will also have no adverse effects on the integrity of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites through recreation (e.g. through physical damage or non-physical disturbance).

## 5.6 Policy CS8 – Spatial Distribution of Housing

### 5.6.1. Development CS8a – 9,892 Dwellings in Scunthorpe

This part of Policy CS8 states that 9,892 new dwellings will be provided in Scunthorpe. A total of 2,642 dwellings are being provided from sites that already been granted planning permission or are under construction.

The policy states that 6,000 dwellings will be provided by the Lincolnshire Lakes development. To avoid repetition the assessment of the impacts of this development on the integrity of the international sites is carried out under the assessment of Development CS4a above in Section 5.4 above.

A total of 1,250 dwellings will be provided elsewhere within the urban area of Scunthorpe. However, no specific locations for these additional 1,250 dwellings are identified (the location of housing will be delivered through the Housing and Employment Land Allocations DPD). This section assesses the delivery of 1,250 dwellings in Scunthorpe.

Scunthorpe is a large town located approximately 11 km west of the Thorne and Hatfield Moors international sites (at their closest). This town is located approximately 1.3 km from the Humber Estuary SAC and Ramsar site and 7.2 km from the Humber Estuary SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

#### ***Physical Loss***

Given the distances between Scunthorpe and the Humber Estuary SAC, SPA and Ramsar site it is considered that there will be no direct physical loss to these international sites. Furthermore, there is not anticipated to be any direct or indirect physical loss to the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, depending on the specific location of new housing development within the town, there is the potential for a conflict with the Humber Estuary SPA and Ramsar site. For example, if new development is to be located on previously developed land within Scunthorpe it is unlikely that the site would be used by birds from the SPA and Ramsar site for foraging or high tide roosting purposes. However, if development is to be located on Greenfield land (such as agricultural land) adjacent to the town, there is the potential for the loss of land that birds from the SPA and Ramsar site may use as foraging habitat and/or high tide roost sites.

No development can occur outside of the development limit<sup>34</sup> for Scunthorpe. This includes any allocation sites that will come forward in the lower tier Housing and Employment Land Allocations DPD. However, this excludes the Lincolnshire Lakes development which is classed as an urban extension and will thus occur outside the Scunthorpe development limit.

Within the development limit of this town there are only a few areas of Greenfield land that could be developed upon (predominately located towards the north and north-west of Scunthorpe). These areas of land are all in close proximity to existing development (e.g. residential properties and some areas of employment). This makes these areas unlikely to be used as a high tide roost sites or foraging sites for birds from the Humber Estuary SPA and Ramsar site.

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<sup>34</sup> A development limit is defined as “the boundary drawn around a settlement enclosing the main built up part and sites allocated for development outside of which countryside policies apply”.

However, a potential conflict between the provision of housing in Scunthorpe and the conservation objectives for the international sites may occur (if housing is built on Greenfield land). Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

Physical damage is not considered to be likely to cause deterioration of the Humber Estuary SAC habitats<sup>35</sup>.

The provision of housing in Scunthorpe could potentially increase the number of visitors to the River Trent (the part of the Humber Estuary SAC and Ramsar site that is closest to Scunthorpe). The intertidal areas of the River Trent are of a steep nature and have a relatively low ecological value when completed to the mudflat habitat in the wider estuary<sup>36</sup>. However, increased visitors could cause damage of the river banks through abrasion (damage caused by as a result of recreational pedestrian activities). Access from Scunthorpe to the banks of the River Trent is poor, and there is the barrier of the A1077 between the river and the town (where most housing is likely to be located). In addition there are no footpaths along the river within close proximity to Scunthorpe. It is considered likely that the nearby Local Nature Reserves will attract more visitors for activities such as dog walking. Therefore, there will be no physical damage to the Humber Estuary SAC or Ramsar and therefore no adverse effects on integrity to these international sites.

Given the distance of Scunthorpe to the Humber Estuary SPA, Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be adverse effects through physical damage to the integrity of these international sites.

### ***Non-Physical Disturbance***

Both the Humber Estuary SPA and Ramsar site are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. The River Trent forms the most southerly part of the Ramsar site, where birds from the SPA are likely to also be present, and is located 1.3 km from Scunthorpe. However, access from Scunthorpe to the banks of the River Trent is poor, and there is the barrier of the A1077 between the river and the town (where most housing is likely to be located). There are no footpaths along the river within close proximity to Scunthorpe. Therefore it is considered likely that the nearby Local Nature Reserves will attract more visitors for activities such as dog walking.

Furthermore, the results of the WeBs Humber Estuary Low Tide Count Programme carried out in 2003 and 2004 confirmed that only the following species were using the River Trent and only in small numbers: shelduck, redshank, wigeon, lapwing, curlew, teal, oystercatcher and mallard<sup>37</sup>. This suggests that the River Trent does not form as important a habitat for birds from the SPA and Ramsar site as other areas of the Humber Estuary. Therefore, it will not be as vulnerable to non-physical disturbance as other parts of the Humber Estuary.

Boat traffic on the River Trent has potential to disturb habitats and the lamprey species using the river. However, having studied the Regulation 33 advice for these international sites, it is not considered that the lamprey species are vulnerable to increases of boat traffic<sup>38</sup>. It is considered that the poor access to the inner estuary and the river will reduce the amount of boat traffic and thus disturbance on breeding and wintering birds is considered unlikely, especially along the Trent.

<sup>35</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>36</sup> HARBASINS Report: Habitat Status of the Humber Estuary, UK [FINAL] Prepared by: Institute of Estuarine & Coastal Studies (IECS), University of Hull, UK (April 2008)

<sup>37</sup> Humber Estuary Low Tide Count Programme 2003-2004, English Nature Research Report 656 (March 2005)

<sup>38</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

For these reasons outlined above there is considered to be no non-physical disturbance to Humber Estuary SAC, SPA and Ramsar and as such no adverse effects on integrity to these international sites.

Given the distance from Scunthorpe to the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA it is considered that there will be no adverse effects through non-physical disturbance to the integrity of these international sites.

#### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

#### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

### **5.6.2. Development CS8b – 724 Dwellings in Barton upon Humber**

The policy states that 724 dwellings will be provided in Barton up Humber. However, no specific locations for development are identified. The location of housing will be delivered through the Housing and Employment Land Allocations DPD.

Barton upon Humber is a town located approximately 28 km south-west of the Thorne and Hatfield Moors international sites (at their closest). Given this distance it is not anticipated that there will be any significant adverse effects on the integrity of these international sites and as such are not discussed any further in this section.

Barton upon Humber is located approximately 0.3 km from the Humber SAC, SPA and Ramsar site. The possible adverse effects arising from development in this area are outlined below.

The possible adverse effects arising from development in this area on the Humber Estuary are outlined below.

#### ***Physical Loss***

It is unlikely that any new housing developments associated with this town will result in any direct physical loss of habitat from within the Humber Estuary SAC, SPA and Ramsar site. This is because the existing development limit for this settlement does not extend into the boundary of this international site. No development will occur outside of the development limit (this includes any allocation sites that will come forward in the lower tier *Housing and Employment Land Allocations DPD*).

However, depending on the specific location of new housing development within the town there is the potential for a conflict with the Humber Estuary SAC, SPA and Ramsar site. For example if new development is to be located on previously developed land within the town it is unlikely that the site would be used by birds from the nearby SPA and Ramsar site for foraging or high tide roosting purposes. However, if development is to be located on agricultural land adjacent to the settlement, particularly to the north of the town (towards the Humber Estuary) there is the potential for the loss of land that birds from the SPA and Ramsar site may use as foraging habitat and/or high tide roost sites.

Within the development limit for this town, there are only a few areas of Greenfield land that could be developed. These areas of land are all in close proximity to existing development (e.g. residential properties and some areas of employment). This makes these areas unlikely to be used as a high tide roost sites or foraging sites for birds from the Humber Estuary SPA and Ramsar site. However, a potential conflict between the provision of housing in Barton upon Humber and the conservation objectives for the international sites may occur. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

Physical damage is not considered to be likely to cause deterioration of the Humber Estuary SAC habitats<sup>39</sup>.

The provision of housing in this town could potentially increase the number of visitors to the estuary. This could cause damage of the river banks through abrasion (damage caused by as a result of recreational pedestrian activities). However, in the town there are a range of recreational facilities, a cricket ground and playing fields as well as the Barton Broads open space. This also includes the Water's Edge Country Park, which is a wetland habitat which supports a number of wetland birds. However, this site is formalised already and receives visitors which walk around the designated footpaths. It is not anticipated that any additional visitors, which are inevitable given the new housing to be provided in the town, will result in an adverse effect on integrity of the Humber Estuary SAC, SPA and Ramsar site. The presence of the recreation facilities within the town is also likely to keep people away from more sensitive areas of the Humber Estuary<sup>40</sup>.

Therefore it is anticipated that there will be no adverse effects through physical damage to the integrity of these international sites.

### ***Non-Physical Disturbance***

The qualifying species of the Humber Estuary SPA and Ramsar site are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. It is considered likely that the nearby local nature reserves and other recreational facilities will attract more visitors for activities such as dog walking.

Boat traffic on the River Trent (located approximately 15 km west) has potential to disturb habitats and the lamprey species using the river. However, having studied the Regulation 33 advice for these international sites, it is not considered that the lamprey species are vulnerable to increases of boat traffic<sup>41</sup>. It is considered that the poor access to the inner estuary and the river will reduce the amount of boat traffic and thus disturbance on breeding and wintering birds is considered unlikely.

The town has a range of recreational facilities, a cricket ground and playing fields as well as the Barton Broads open space. This also includes the Water's Edge Country Park, which is a wetland habitat which supports a number of wetland birds. However, this site is formalised already and receives visitors which walk around the designated footpaths. It is not anticipated that any additional visitors, which are inevitable given the proximity of new housing, will result in an adverse effect on

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<sup>39</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>40</sup> Cruickshanks, K., Liley, D., Fearnley, H., Stillman, R., Harvell, P., Hoskin, R. & Underhill-Day, J. (2010). Desk Based Study on Recreational Disturbance to birds on the Humber Estuary. Footprint Ecology / Humber Management Scheme.

<sup>41</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994



integrity. Its presence is also likely to keep people away from more sensitive areas<sup>42</sup> of the SPA and Ramsar site.

However, the Humber is a very large estuary and most of the area within the SPA is located well away from public footpaths and the shore. At low tide particularly there is a very large area of habitat that the birds can exploit, and therefore it is likely that birds can re-distribute themselves according to where disturbance is occurring and also that undisturbed sites will occur.

This factor, combined with the fact that the Water's Edge Country Park is the nearest place for dog walking and cycling, is likely to result in development of housing in the town not causing an adverse effect through disturbance. For the reasons outlined above it is also considered that there will be no non-physical disturbance and therefore no adverse effects on the integrity of the Humber Estuary SPA and Ramsar site.

#### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated (as outlined for Development CS4a in Section 5.4 above).

#### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated (as outlined for Development CS4a in Section 5.4 above).

### **5.6.3. Development CS8c – 145 Dwellings in Crowle**

The policy states that 145 dwellings will be provided in Crowle. However, no specific locations for development are identified. The location of housing will be delivered through the Housing and Employment Land Allocations DPD.

Crowle is a town located approximately 1.29 km east of the Thorne Moor SAC and Thorne and Hatfield Moor SPA. The town is located approximately 7.2 km north-east of Hatfield Moor SAC.

This town is located approximately 5.6 km west of the Humber Estuary SAC and Ramsar site and 11.5 km south-west of the Humber Estuary SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

#### ***Physical Loss***

Given the distances between Crowle and the international sites, it is considered that there will be no direct physical loss to the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, depending on the specific location of new housing development within the town there is the potential for a conflict with the Humber Estuary Ramsar site and Thorne and Hatfield Moors SPA (within 7 km of the Humber Estuary Ramsar site and 6 km of the Thorne and Hatfield Moors SPA, the distance agreed with Natural England that birds from these sites are likely to travel to get to foraging and roosting habitats). For example if new development is to be located on previously developed land within the town it is unlikely that the site would be used by birds from the nearby SPA and Ramsar site for foraging or roosting purposes. However, if development is to be located on agricultural land adjacent to the settlement, there is the potential for the loss of land that birds from the Thorne and Hatfield Moors SPA and the Humber Estuary Ramsar site are using.

<sup>42</sup> Cruickshanks, K., Liley, D., Fearnley, H., Stillman, R., Harvell, P., Hoskin, R. & Underhill-Day, J. (2010). Desk Based Study on Recreational Disturbance to birds on the Humber Estuary. Footprint Ecology / Humber Management Scheme.



The development limit around Crowle runs immediately adjacent to the existing settlement. As such there is no scope to extend the town into the surrounding Greenfield land as no development can occur outside of the development limit (including any allocation sites that will come forward in the lower tier Housing and Employment Land Allocations DPD). There are a small number of green spaces within the town which could be developed upon (including playing fields). However, these areas of land are all in close proximity to existing development (e.g. residential properties and some areas of employment). This makes these areas unlikely to be used as a high tide roost sites or foraging sites for birds from the Humber Estuary international sites or the Thorne and Hatfield Moors international sites. However, a potential conflict between the provision of housing in Crowle and the conservation objectives for the Humber Estuary Ramsar site and the Thorne and Hatfield Moors SPA may occur. Without mitigation, this may lead to adverse effects on integrity of the Thorne and Hatfield Moors SPA and the Humber Estuary Ramsar site.

### ***Physical Damage***

Physical damage is not considered to be likely to cause deterioration of the SAC habitats<sup>43</sup>.

The provision of housing in this town could potentially increase the number of visitors to the Humber Estuary international sites and the Thorne and Hatfield Moors international sites. This could cause damage to the habitats within the three SACs through abrasion (damage caused by as a result of recreational pedestrian activities). However, there is a large amount of green open space surrounding the town and it is therefore unlikely that development on this allocation site would cause an increase in recreational pressure at the Thorne and Hatfield Moors International sites or within the Humber Estuary. Communication with Natural England (27/09/2010) confirmed that the Thorne and Hatfield Moors international sites are capable of absorbing increased numbers of visitors and as such it is not anticipated that the provision of housing in this town will have an adverse effect on integrity of the international sites as a result of increased recreational pressure.

The Thorne Moor SAC and Hatfield Moor SAC are sensitive to changes in air quality (with deterioration in air quality potentially leading to a deterioration in the active raised bog habitats that the site is designated for). Road transport emits a number of air pollutants including oxides of nitrogen, volatile organic compounds, ammonia, heavy metals and particulates. Increases in concentrations occur usually within 200 m of a major road<sup>44</sup>. It is not considered that the provision of new housing within Crowle will lead to significant increases in road traffic volume either alone or in combination with other developments in the area. At the nearest point, the Hatfield Moors SAC is 700 m from the nearest motorway (the M180), which is most likely to see the greatest increase in traffic flow. It is therefore considered that there will be no adverse effects on the integrity of Thorne Moor SAC or Hatfield Moor SAC through a deterioration in air quality.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites or the Thorne and Hatfield Moors international sites from physical damage.

### ***Non Physical Disturbance***

The qualifying species of the Thorne and Hatfield Moors SPA are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. However, it is considered likely that the there is a large amount of green open space surrounding the town will attract more visitors for activities such as dog walking. As outlined above, communication with Natural England (27/09/2010) confirmed that the Thorne and Hatfield Moors international sites are capable of absorbing increased

<sup>43</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>44</sup> (DMRB IAN 61/04, 2005). Guidance for Undertaking Environmental Assessment of Air Quality for Sensitive Ecosystems in Internationally Designated Nature Conservation Sites and SSSI

numbers of visitors and as such it is not anticipated that this allocation will have a likely significant effect as a result of increased recreational pressure.

Boat traffic on the River Trent (part of the Humber Estuary SAC and Ramsar site, located approximately 5.6 km west) has potential to disturb habitats and the lamprey species using the river. However, having studied the Regulation 33 advice for these international sites, it is not considered that the lamprey species are vulnerable to increases of boat traffic<sup>45</sup>. It is considered that the poor access to the inner estuary and the river will reduce the amount of boat traffic and thus disturbance on breeding and wintering birds is considered unlikely.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites or the Thorne and Hatfield Moors international sites from non-physical disturbance.

#### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

#### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

#### **5.6.4. Development CS8d – 277 Dwellings in Winterton**

The policy states that 277 dwellings will be provided in Winterton. However, no specific locations for development are identified. The location of housing will be delivered through the Housing and Employment Land Allocations DPD.

Winterton is a town located approximately 15.8 km east of the Thorne and Hatfield Moors international sites (at their closest). Given this distance it is not anticipated that there will be any adverse effects on the integrity of these international sites and as such are not discussed any further in this section.

Winterton is located approximately 5 km east of the Humber Estuary SAC and Ramsar site and 5.4 km south-east of the Humber Estuary SPA.

The possible adverse effects arising from development in this area on the Humber Estuary are outlined below.

#### ***Physical Loss***

Given the distances between Winterton and the international sites it is considered that there will be no direct physical loss to the Humber Estuary SAC, SPA and Ramsar site.

However, depending on the specific location of new housing development within the town there is the potential for a conflict with the Humber Estuary SPA and Ramsar site. For example if new development is to be located on previously developed land within the town it is unlikely that the site would be used by birds from the nearby SPA and Ramsar site for foraging or high tide roosting purposes. However, if development is to be located on Greenfield land (such as agricultural land) adjacent to the settlement, particularly to the north of the town (towards the Humber Estuary) there is

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<sup>45</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

the potential for the loss of land that birds from the Humber Estuary SPA and Ramsar site may use as foraging habitat and/or high tide roost sites.

The development limit around Winterton runs immediately adjacent to the existing settlement. As such there is no scope to extend the town into the surrounding Greenfield land as no development can occur outside of the development limit (including any allocation sites that will come forward in the lower tier Housing and Employment Land Allocations DPD).

There are a small number of green spaces within the town which could be developed upon. However, these areas of land are all in close proximity to existing development (e.g. residential properties and some areas of employment). This makes these areas unlikely to be used as a high tide roost sites or foraging sites for birds from the Humber Estuary SPA and Ramsar site. However, a potential conflict between the provision of housing in Winterton and the conservation objectives for the international sites may occur. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

Physical damage is not considered to be likely to cause deterioration of the Humber Estuary SAC habitats<sup>46</sup>.

The provision of housing at this location could potentially increase the number of visitors to the Humber Estuary international sites (particularly along the River Trent which forms part of the Humber Estuary SAC and Ramsar site). However, it is considered likely that the nearby local nature reserves will attract more visitors for activities such as dog walking.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites from physical damage.

### ***Non-Physical Disturbance***

The qualifying species of the Humber Estuary SAC, SPA and Ramsar sites are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. However, it is considered likely that the nearby local nature reserves and other recreational facilities will attract more visitors for activities such as dog walking.

Boat traffic on the River Trent has potential to disturb habitats and the lamprey species using the river. However, having studied the Regulation 33 advice<sup>47</sup> for these international sites, it is not considered that the lamprey species are vulnerable to increases of boat traffic. It is considered that the poor access to the inner estuary and the river will reduce the amount of boat traffic and thus disturbance on breeding and wintering birds is considered unlikely.

The wintering birds for which the Humber Estuary SPA and Ramsar site are designated are unlikely to use fields more than 4 km from the estuary edge in large numbers<sup>48</sup>. The town is 5 km from the nearest part of the Humber Estuary SPA and Ramsar site. As outlined above, the development limit for the town runs immediately adjacent to the existing settlement. This means that there is no scope to extend the town into the surrounding Greenfield land and development will not extend into the 4 km zone from the SPA and Ramsar site.

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<sup>46</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>47</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

<sup>48</sup> South Humber Bank Zone. Final Report: Field Usage by Bird Species from the Humber Estuary SPA, Mott MacDonald, 2009

Discussions with the North Lincolnshire Council's Ecologist (09/09/10) confirmed that there are very few wintering bird sites within close proximity to Winterton. For these reasons it is considered that it is unlikely that there will be any adverse effects on the qualifying features of the Humber Estuary SPA and Ramsar.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites from non-physical disturbance.

***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated (as outlined for Development CS4a in Section 5.4 above).

***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated (as outlined for Development CS4a in Section 5.4 above).

## 5.7 Policy CS11 – Provision and Distribution of Employment Land

### 5.7.1. Development CS11a – 71 ha Employment Land in Scunthorpe

This policy states that 71 ha of land for employment use will be identified and allocated in the following areas: Scunthorpe North, Town Centre and Scunthorpe West. However, no specific locations for development are identified. The location of employment land will be delivered through the Housing and Employment Land Allocations DPD.

Scunthorpe is a large town located approximately 11 km west of the Thorne and Hatfield Moors international sites (at their closest). This town is located approximately 1.3 km from the Humber Estuary SAC and Ramsar site and 7.2 km from the Humber Estuary SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

#### ***Physical Loss***

Given the distances between Scunthorpe and the international sites, it is considered that there will be no direct physical loss to the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, depending on the specific location of new employment development within the town there is the potential for a conflict with the Humber Estuary SPA and Ramsar site. For example if new development is to be located on previously developed land within Scunthorpe it is unlikely that the site would be used by birds from the SPA and Ramsar site for foraging or high tide roosting purposes. However, if development is to be located on Greenfield land (such as agricultural land) adjacent to the town, there is the potential for the loss of land that birds from the Humber Estuary SPA and Ramsar site may use as foraging habitat and/or high tide roost sites.

No development can occur outside of the development limit for Scunthorpe. This includes any allocation sites that will come forward in the lower tier Housing and Employment Land Allocations DPD. However this excludes the Lincolnshire Lakes development which is classed as an urban extension and will thus occur outside of the Scunthorpe development limit.

Within the development limit for this town there are only a few areas of Greenfield land that could be developed (predominately located towards the north and north-west of Scunthorpe). These areas of land are all in close proximity to existing development (e.g. residential properties and some areas of employment). This makes these areas unlikely to be used as a high tide roost sites or foraging sites for birds from the SPA and Ramsar site. However, a potential conflict between the provision of employment land in Scunthorpe and the conservation objectives for the international sites may occur. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

#### ***Physical Damage***

Physical damage is not considered to be likely to cause deterioration of the Humber Estuary SAC habitats<sup>49</sup>.

The provision of employment land in Scunthorpe could potentially increase the number of visitors to the River Trent (the part of the Humber Estuary SAC and Ramsar site that is closest to Scunthorpe). The intertidal areas of the River Trent are of a steep nature and have a relatively low ecological

<sup>49</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

value when completed to the mudflat habitat in the wider estuary<sup>50</sup>. This could cause damage of the river banks through abrasion (damage caused by as a result of recreational pedestrian activities). However, access from Scunthorpe to the banks of the River Trent is poor, and there is the barrier of the A1077 between the river and the town. In addition there are no footpaths along the river within close proximity to Scunthorpe. Therefore it is considered likely that the nearby local nature reserves will attract more visitors for activities such as dog walking. As such, there will be no physical damage to the Humber Estuary SAC or Ramsar and therefore no adverse effects on integrity to these international sites.

Given the distance to the Humber Estuary SPA, Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA it is considered that there will be no physical damage to these international sites and as such no adverse effects on integrity to these international sites.

### ***Non-Physical Disturbance***

Both the Humber Estuary SPA and Ramsar site are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. The River Trent forms the most southerly part of the Ramsar site, where birds from the SPA are likely to also be present and is located 1.3 km from Scunthorpe. However, access from Scunthorpe to the banks of the River Trent is poor, and there is the barrier of the A1077 between the river and the town. There are no footpaths along the river within close proximity to Scunthorpe. Therefore it is considered likely that the nearby local nature reserves will attract more visitors for activities such as employees walking in their lunch break.

Furthermore, the results of the WeBs Humber Estuary Low Tide Count Programme carried out in 2003 and 2004 confirmed that only the following species were using the River Trent and only in small numbers: shelduck, redshank, wigeon, lapwing, curlew, teal, oystercatcher and mallard<sup>51</sup>. This suggests that the River Trent does not form as important a habitat for birds from the SPA and Ramsar site as other areas of the Humber Estuary. Therefore, it will not be as vulnerable to non-physical disturbance as other parts of the Humber Estuary.

For these reasons outlined above there is considered to be no non-physical disturbance to Humber Estuary SAC, SPA and Ramsar and as such no adverse effects on integrity to these international sites.

Given the distance to the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA it is considered that there will be no non-physical disturbance to these international sites and as such no adverse effects on integrity to these international sites.

### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a (which takes into account housing and employment) in Section 5.4 above).

### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a (which takes into account housing and employment) in Section 5.4 above).

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<sup>50</sup> HARBASINS Report: Habitat Status of the Humber Estuary, UK [FINAL] Prepared by: Institute of Estuarine & Coastal Studies (IECS), University of Hull, UK (April 2008)

<sup>51</sup> Humber Estuary Low Tide Count Programme 2003-2004, English Nature Research Report 656 (March 2005)



### **5.7.2. Development CS11b – 10 ha of Employment Land in Market Towns**

This policy states that 10 ha of land will be allocated within North Lincolnshire's Market Towns for small and medium scale employment opportunities. Market Towns include Barton upon Humber, Brigg, Crowle, Epworth, Kirton in Lindsey and Winterton. However, no specific locations for development are identified. The location of employment land will be delivered through the Housing and Employment Land Allocations DPD.

#### ***Physical Loss***

The assessment of the adverse effects of employment land allocations on the six international sites is comparable to that undertaken for housing land as set out in Table 5.4 (see Section 5.2 above) and for Developments CS8b, CS8c and CS8d (see Section 5.6 above).

#### ***Physical Damage***

The assessment of the adverse effects of employment land allocations on the six international sites is comparable to that undertaken for housing land as set out in Table 5.4 (see Section 5.2 above) and for Developments CS8b, CS8c and CS8d (see Section 5.6 above).

#### ***Non Physical Disturbance***

The assessment of the adverse effects of employment land allocations on the six international sites is comparable to that undertaken for housing land as set out in Table 5.4 (see Section 5.2 above) and for Developments CS8b, CS8c and CS8d (see Section 5.6 above).

#### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a).

#### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

### **5.7.3. Development CS11c – 58.5 ha Employment Land at Sandtoft Business Park**

This policy states that 58.5 ha of land will be allocated at Sandtoft Business Park for a logistics and distribution park. However, no specific locations for development is identified (an indicative location is provided on the Key Diagram within the Core Strategy DPD although this is a very high level, strategic plan). The location of employment land will be delivered through the Housing and Employment Land Allocations DPD.

Sandtoft Business Park is located approximately 2.2 km west of the Thorne and Hatfield Moors international sites (at their closest). The Humber Estuary SAC and Ramsar site are located approximately 9.9 km north-east and the Humber Estuary SPA is located approximately 18.8 km north-east.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

### ***Physical Loss***

Given the distances between Sandtoft Business Park and the international sites, it is considered that there will be no direct physical loss to the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, depending on the specific location of the employment land there is the potential for a conflict with the Thorne and Hatfield Moors SPA. For example if new development is to be located on previously developed land it is unlikely that the site would be used by birds from the SPA for foraging or roosting purposes. However, if development is to be located on habitat suitable for nightjar (e.g. open woodland with clearings or in recently felled conifer plantations) there is the potential for the loss of land that nightjar from the SPA may use.

An inspection of aerial photographs of the area where development may be located suggests that there is no suitable habitat for nightjar present. However, a potential conflict between the provision of employment land at Sandtoft Business Park and the conservation objectives for the Thorne and Hatfield Moors SPA may occur should the employment land be located in an area where suitable for nightjar is present. Without mitigation, this may lead to adverse effects on integrity of this international site.

Natural England has confirmed that birds from the SPA and Ramsar site will travel up to 7 km from the boundary of the international sites for these purposes. Sandtoft Business Park is located over 7 km from the Humber Estuary SPA and Ramsar site. Therefore, there are no adverse effects on integrity of the Humber Estuary SPA or Ramsar site from physical loss of habitats.

### ***Physical Damage***

The provision of employment land could potentially increase the number of visitors to the Humber Estuary international sites and the Thorne and Hatfield Moors international sites. This could cause damage of the habitats within the three SACs through abrasion (damage caused by as a result of recreational pedestrian activities).

However, there is a large amount of green open space surrounding the Sandtoft Business Park and it is therefore unlikely that development in this location would cause an increase in recreational pressure at the Humber Estuary SAC (workers at lunchtime are likely to visit local green space rather than travel to the internationally important sites).

The closest international site is the Hatfield Moor SAC, located approximately 2.2 km away. Communication with Natural England (27/09/2010) confirmed that the Thorne and Hatfield Moors international sites are capable of absorbing increased numbers of visitors. As such, should recreation increase in the international site, it is not anticipated that the provision of employment land will lead to adverse effects on integrity of this international site.

The Thorne Moor SAC and Hatfield Moor SAC are sensitive to changes in air quality (with deterioration in air quality potentially leading to a deterioration in the active raised bog habitats that the site is designated for). Road transport emits a number of air pollutants including oxides of nitrogen, volatile organic compounds, ammonia, heavy metals and particulates. Increases in concentrations occur usually within 200 m of a major road<sup>52</sup>. It is not considered that the provision of new employment land at Sandtoft Business Park will lead to significant increases in road traffic volume either alone or in combination with other developments in the area. At the nearest point, the Hatfield Moors SAC is 700 m from the nearest motorway (the M180), which is most likely to see the greatest increase in traffic flow. It is therefore considered that there will be no adverse effects on the integrity of Thorne Moor SAC or Hatfield Moor SAC through a deterioration in air quality.

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<sup>52</sup> (DMRB IAN 61/04, 2005). Guidance for Undertaking Environmental Assessment of Air Quality for Sensitive Ecosystems in Internationally Designated Nature Conservation Sites and SSSI



It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites or the Thorne and Hatfield Moors international sites from physical damage.

#### ***Non Physical Disturbance***

The qualifying species of the Thorne and Hatfield Moors SPA, nightjar, are vulnerable to disturbance through noise and visual presence of visitors and recreational activities. However, it is considered likely that there is a large amount of green open space surrounding the Sandtoft Business Park that will attract more visitors for activities (such as employees on their lunch break). As outlined above, communication with Natural England (27/09/2010) confirmed that the Thorne and Hatfield Moors international sites are capable of absorbing increased numbers of visitors and as such it is not anticipated that this allocation will have a likely significant effect as a result of increased recreational pressure.

Given the distance to the Humber Estuary SAC, SPA and Ramsar site it is considered unlikely that workers from the new employment site will visit these international sites. They are more likely to visit local green space, for example, whilst on their lunch break.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites or the Thorne and Hatfield Moors international sites from non-physical disturbance.

#### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

#### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS4a in Section 5.4 above).

## 5.8 Policy CS12 – South Humber Bank Strategic Employment Site

Policy CS12 states that around 900 ha of land at the South Humber Bank Strategic Employment Site (SHBSES) will be reserved for B1, B2 and B8 port related activities. The exact location of the SHBSES is not provided within the policy. However, an indication of its location is provided on the Key Diagram that forms part of the Core Strategy DPD. This site will be allocated (and its boundaries determined) in the Housing and Employment Land Allocations DPD<sup>53</sup>.

The policy recognises opportunities for development within the SHBSES, for example, the new port facilities (Developments CS12b and CS12c). However, these are opportunities only and the Policy does not commit to these developments taking place. Should it not be possible to provide Developments CS12b and CS12c in the future, this will not affect the deliverability of the Core Strategy DPD.

The SHBSES is located approximately 38 km east of the Thorne and Hatfield Moors international sites (at its closest). Given this distance, it is not considered that there will be any adverse effects on integrity of these sites from physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction. Therefore these international sites are not assessed further in this section.

The SHBSES is located immediately adjacent to the Humber Estuary SAC, SPA and Ramsar site. The possible adverse effects arising from development in this area on the Humber Estuary are outlined below.

### 5.8.1. Development CS12a – 900 ha of Employment Land at South Humber Bank (including CS12b, CS12c and CA12d)

#### **Physical Loss**

The exact boundaries of the SHBSES are not currently known. However, it is very unlikely that the allocation will be within the boundary of the SAC, SPA or Ramsar site<sup>54</sup>. This is due to Policy CS17 – Biodiversity in the Core Strategy DPD which states that internationally protected sites will be safeguarded from inappropriate development (thus the SAC, SPA and Ramsar site are protected by this policy). There is currently a proposal for a development within the SHBSES which will potentially lead to the loss of habitats from within the SAC, SPA and Ramsar site: the Able UK Marine Energy Park proposal. However, this proposal is not put forward in Policy CS12 or in the Core Strategy DPD. Therefore, in accordance with the Habitats Regulations, the effects of this proposal have been considered as part of the in combination effects (see Section 4).

However, the land where development is proposed is known to support significant number of wading birds, which are qualifying features of the SPA and the Ramsar site, and which roost, feed and loaf on the terrestrial habitat where development may occur.

For example, the habitats within Killingholme Haven Pits (which form part of the Humber Estuary SAC, SPA and Ramsar site), are known to support a large number of qualifying species of the SPA

<sup>53</sup> The *Housing and Employment Land Allocations DPD* has now been subject to the HRA process and has been found to lead to no adverse effects on integrity of the Humber Estuary international sites or the Thorne and Hatfield Moors international sites. These findings have been signed off by North Lincolnshire Council (*Housing and Employment Allocation Land Development Plan Document (Submission Draft)* – Appropriate Assessment completed by North Lincolnshire Council on 13<sup>th</sup> November 2010).

<sup>54</sup> It has now been confirmed through the *Housing and Employment Land Allocations DPD* that the SHBSES allocation does not fall within the boundaries of the Humber Estuary international sites.

and Ramsar site including black-tailed godwits, redshank, dunlin, and pochard<sup>55</sup>. The boundary of the SHBSES is likely to be in close proximity to this part of the international site and development adjacent to the international site is likely to have an adverse effect on integrity of the SPA and Ramsar site as these habitats are known to support valuable high tide roosting and foraging habitats for bird species from the Humber. Development within the SHBSES may lead to the loss of habitats for foraging, loafing and roosting outside the boundary of the SPA and Ramsar site.

Furthermore, Halton Marshes (fields between East Halton Skitter and North Killingholme Haven) support an occasional high tide roost for golden plover. These fields can support up to 3,000 golden plover during the winter. Some interchange with the north bank of the Humber by these flocks has been observed in the past, including usage of fields immediately north-west of East Halton Skitter<sup>45</sup>. Depending on development proposals within the SHBSES once it is allocated, these habitats may be partly lost as a result of development within this allocation.

Development CS12b notes that the site frontage to the deep water channel will be safeguarded. The deep water channel frontage is fundamentally important to the development of the SHBSES. Development that does not need to be sited in such a location or that would prejudice the use or development of the frontage in terms of landing materials/goods would be contrary to this policy. Development CS12d notes that there is the opportunity to develop a new port within the SHBSES. This may involve the construction of new wharfs/jetties and other port related infrastructure leading to the loss of intertidal habitat.

It is therefore possible that, once the site is allocated through the Housing and Employment Land Allocations DPD, development could occur along the edge of the Humber Estuary SAC, SPA and Ramsar site. This could lead to the loss of SAC habitats (including saltmarsh habitats) and, without mitigation, this would cause an adverse effect on integrity of the SAC. However, it is not known if and when proposals for this type of development will come forward (with the exception of the Able UK Marine Energy Park proposal which is currently at the scoping stage and is considered in Section 4 above). Should this occur there is a presumption against development that would harm international sites in the Core Strategy DPD (Policy CS17 states that internationally protected sites will be safeguarded from inappropriate development) and this will help protect the Humber Estuary.

Development CS12c noted that it is likely that pipe routes will be needed to connect the deepwater frontage to other parts of the site or nearby areas. These pipes would distribute materials (gases/liquids) to specific end users. The locations of these pipelines are not known and will not be determined until development proposals come forward. Pipes may need to enter the Humber Estuary and could result in the loss of SAC habitats. Without mitigation, this would cause an adverse effect on integrity of the SAC.

### **Physical Damage**

The provision of industrial and port developments within the SHBSES (e.g. Development CS12b and CS12d) will lead to increases in boat traffic in the form of shipping. This may result in the damage of intertidal and subtidal habitats when anchoring and through abrasion by boats. However, intertidal habitats are naturally dynamic and are not therefore necessarily highly sensitive to such abrasion. Impacts are therefore likely to be localised, particularly around ports. At present there are existing jetties which are likely to be used and any new developments are unlikely to result in additional impacts in these areas. Physical damage is not considered to be likely to cause deterioration of the habitats within the international sites<sup>56</sup>.

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<sup>55</sup> Mander, L., Cutts, N. and Thomson, S. 2006. Review of High Tide Waterfowl Roosting and Foraging Sites on the Humber Estuary, *English Nature Research Reports*, No XXX.

<sup>56</sup> The Humber Estuary European Marine Site. English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

The provision of employment sites at the SHBSES could potentially increase the number of visitors to the estuary (through employees on their lunch break or after work walking along the river front). This could cause damage of intertidal habitats (used by SPA and Ramsar birds) and saltmarsh through abrasion (damage caused by as a result of recreational pedestrian activities). Without mitigation, this may lead to adverse effects on the Humber Estuary SAC.

### ***Non-Physical Disturbance***

Ports can cause habitat loss, but also act as disturbance sources, from the development itself or the traffic to and from the development (displacing birds, reducing their feeding time and increasing their energy demands)<sup>57</sup>.

The construction and operation of any new port related development will lead to disturbance to SPA and Ramsar birds.

A study at the Killingholme Haven mudflats during construction and operation of Humber International Terminal found most significant disturbance during monitoring was related to a natural predator hunting over mudflats<sup>58</sup>. Furthermore, respondents to the Footprint Ecology Report<sup>59</sup> felt that commercial shipping has no/little effect on birds. This is supported by the Humber Estuary Management Scheme Report (2006)<sup>60</sup>, which considers impacts of shipping and assesses 'vesse/ transits throughout the estuary on a continuous basis'. It reports that the birds are highly tolerant to low intensity engine noise and to continuous shipping activity. Therefore, no adverse effect on integrity of the SPA/Ramsar is expected as a result of potential increases in shipping movements.

The construction and operation of new employment sites will lead to an increase in the number of people in this area and may potentially lead to an increase in non-physical disturbance to birds using habitats adjacent to the estuary (through employees on their lunch break or after work walking along the river front).

It is therefore likely that the development of employment sites in the SHBSES, without mitigation, will cause an adverse effect to the Humber Estuary SPA and Ramsar site (through disturbance to wintering and breeding birds).

### ***Changes in Water Quality***

The manner in which water is to be discharged from any of the industrial developments that are constructed in the SHBSES will be dealt with and determined as part of the each planning application that will arise with each road improvement development. Discharge consents, where applicable, will have to be obtained from the Environment Agency as part of the planning application process.

If new developments are to be constructed, as part of the planning application process, it will be necessary to obtain discharge consents for any surface water run-off from the Environment Agency. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through HRA where necessary) as part of this process.

Therefore no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated (as any potential adverse effects as a result of surface water discharges to the Humber Estuary would be subject to Environment Agency consents process and where necessary include HRA).

<sup>57</sup> Stillman, R.A., West, A.D., Calow, W.G. and Le V. Ditt Durrel, S.E.A. *Ibis* (2007), 149 (Supple. 1) 73-81

<sup>58</sup> Literature Review of relevant studies relating to disturbance of waterbirds. Scott Wilson (2010) Vol 2: Technical Appendix 11M

<sup>59</sup> Cruikshanks, K., Liley, D., Fearnley, H., Stillman, R., Harvell, P., Hoskin, R. & Underhill-Day, J. (2010) Desk based Study on Recreational Disturbance to birds on the Humber Estuary. Footprint Ecology, Dorset

<sup>60</sup> Manning, C.J. (2006). The Humber Estuary Management Scheme Report. Humber Management Scheme Annex I.

### **Water Abstraction**

It is acknowledged that development within the SHBSES may result in impacts on the structure and function of the Humber Estuary SAC through abstraction (e.g. water from the estuary being pumped out of the river for industrial uses). However, the Spatial Review of Water Supply and Quality in the East Midlands (2006)<sup>61</sup> reports a water surplus in the South Humberside Resource Zone. Models project a surplus in the region until the year 2030 even under scenarios with growth rates being 20% higher than preferred and no efficiency measures in place.

Should water need to be abstracted from the Humber Estuary, it will be necessary to obtain a licence for abstraction from the Environment Agency. The Environment Agency regulates the licensing of abstraction through the Catchment Abstraction Management Plan. Within this document it is stated that *'if it cannot be determined that your application will not affect the (international) site we have to either put conditions on the licence so that it cannot affect the site or refuse the application. If we grant the licence we may ask you to monitor its impact'*<sup>62</sup>.

Therefore, no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated.

#### **5.8.2. Development CS12e – Improving Access to the Ports**

This part of the policy states that the SHBSES should be accessible by a number of transport modes (including public transport, cycling and walking). The aim of this policy is to increase sustainable transport to and from the site, particularly for workers from nearby settlements. Currently there is no indication of the improvements to public transport, cycling and walking to the SHBSES. However, it is likely that improvements will be outside the SHBSES, focusing on the transport routes connecting to the site. This will not lead to any land take as the improvements will take place on existing roads and paths. As such it is not anticipated that there will be any adverse effects on integrity of the Humber Estuary SAC, SPA and Ramsar site from physical loss, changes to water quality and water abstraction.

Access within the SHBSES will be carefully monitored and people will be kept away from operational port areas for health and safety reasons. However, the main issue with this development aspect is that it may lead to an increase in people accessing habitats adjacent to the Humber Estuary when walking/cycling to and from work or during lunch breaks. This may lead to physical damage (through abrasion of SAC habitats such as saltmarsh and sand dunes) and non physical disturbance (on SPA and Ramsar birds using habitats adjacent to the estuary). Without mitigation, this may lead to adverse effects on the Humber Estuary SAC, SPA and Ramsar site.

Improved access to the ports in relation to rail and road infrastructure is considered in this HRA in Section 5.10 below. This includes assessments of the following development aspects:

- Development CS26a: Dualling of the A160 South Humber Bank Access Road;
- Development CS26f: Upgrades to the South Humber Main Line Between Doncaster and Immingham;
- Development CS26g: Improvements to the Brigg Line; and,
- Development CS26h: Creation of Killingholme Loop.

<sup>61</sup> North Lincolnshire County Council and Halcrow. 2008. Water Cycle Scoping Study

<sup>62</sup> The Environment Agency. 2006. The Grimsby, Ancholme and Louth Catchment Abstraction Management Strategy

## 5.9 Policy CS21 – Minerals

This policy states that the Council will safeguard minerals resources in North Lincolnshire from other development that would prejudice future mineral extraction. The safeguarding of a site does not mean that the site is allocated for future extraction and that quarrying activities will definitely occur. Safeguarding the site merely ensures that, if and when extraction is necessary in the future, no other development has been constructed to prevent access to these valuable mineral resources. Therefore, safeguarding the sites below will not lead to adverse effects on integrity of the international sites (as safeguarding ensures that conditions at these site locations will not alter).

It is not known if or when any of these sites will be worked. A site will only be worked once it has obtained planning permission and all other necessary consents. This section includes an assessment of adverse effects on integrity on international sites if the safeguarded sites are worked for mineral extraction in the future (a decision which is outside of the remit of the Core Strategy). As outlined above, Policy CS21 refers to safeguarding only. However, in order to ensure a thorough and robust HRA has been completed of the Core Strategy, this additional level of assessment has been completed to identify potential conflicts and any mitigation measures required to avoid adverse effects. The North Lincolnshire Local Plan has been reviewed to identify the locations of the safeguarded areas identified in the Policy CS21.

### 5.9.1. **CS21a (North Moor Road, Messingham), CS21b (Scallow Grove, Messingham) and CS21c (Black Nook Wood, near Messingham)**

These three sites are safeguarded for their silica sand reserves.

CS21a is located approximately 7.8 km south-east of Humber Estuary SAC and Ramsar site and 16.9 km south-east of Humber Estuary SPA. It is located approximately 16 km south-east of Thorne Moor SAC, 14.7 km east of Hatfield Moor SAC and 14.7 km east of Thorne and Hatfield Moors SPA.

CS21b is located approximately 10 km south-east of Humber Estuary SAC and Ramsar site and 18.6 km south-east of Humber Estuary SPA. It is located approximately 18.8 km south-east of Thorne Moor SAC, 17.5 km east of Hatfield Moor SAC and 17.9 km east of Thorne and Hatfield Moors SPA.

CS21c is located approximately 11.4 km south-east of Humber Estuary SAC and Ramsar site and 19.5 km south-east of Humber Estuary SPA. It is located approximately 19.4 km south-east of Thorne Moor SAC, 17.9 km east of Hatfield Moor SAC and 18.3 km east of Thorne and Hatfield Moors SPA.

The possible adverse effects arising from development in these areas on the six international sites are outlined below.

#### ***Physical Loss***

It is considered that there will be no direct physical loss to the international sites, given the distances between these three safeguarded sites and the Humber Estuary SAC, SPA and Ramsar site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

Natural England has confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats. Therefore given the distance from the three safeguarded areas to the Thorne and Hatfield Moors SPA, it is considered that there will be no indirect physical loss of habitats being used by the qualifying bird species, nightjar, outside of the SPA (i.e. they are located over 6 km away from this international site).



Natural England have confirmed that birds from this site are likely to travel up to 7 km from the SPA and Ramsar site to get to foraging and high tide roosting habitats. It is considered that there will be no indirect physical loss of habitats (i.e. loss of habitats used by the qualifying bird species outside of these international sites) as the three safeguarded sites are located over 7 km away from the Humber Estuary SPA and Ramsar site.

Therefore, there is not anticipated to be any adverse effects on integrity of these six international sites from physical loss.

### ***Physical Damage***

A key vulnerability of the Thorne and Hatfield Moors international sites is a change in hydrology, affecting groundwater flows within the site. Should groundwater levels decrease, there is the potential for the active raised bogs, for which the SAC is designated, to become degraded.

The Humber Estuary international sites are not as vulnerable to changes in groundwater levels as the Thorne and Hatfield Moors international sites. However, it is acknowledged that a change in groundwater levels may affect areas of land adjacent to the Estuary used by bird species from the SPA and Ramsar site for foraging and high tide roosting purposes.

Should these three safeguarded mineral sites ever be subject to extraction, there is a possibility that the quarrying may lead to a draw down in ground water levels in the areas surrounding the site. In free draining soils this extends up to 600 m from the extraction site (Natural England, 07/10/10). Given the distance of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites from the three safeguarded mineral sites it is unlikely that, if this site was ever worked, it would cause any physical damage to these international sites.

Furthermore, the River Trent separates these three sites from the Thorne and Hatfield Moors international sites. This watercourse forms a hydrological barrier and is likely to buffer any potential impacts from pumping of groundwater during the extraction process (should this ever occur at these three safeguarded sites).

The provision of mineral extraction sites at these locations (should they ever be worked) could potentially increase the number of visitors to the Humber Estuary international sites and the Thorne and Hatfield Moors international sites (e.g. from people visiting the international sites during lunch breaks). This could cause damage of the habitats within the three SACs through abrasion (damage caused by as a result of recreational pedestrian activities). However, there is a large amount of green open space surrounding the three safeguarded sites and it is therefore unlikely that development in this location would cause an increase in recreational pressure at the Humber Estuary SAC, SPA and Ramsar site (workers at lunchtime are likely to visit local green space rather than travel to the internationally important sites).

Therefore, there is not anticipated to be any adverse effects on integrity of these international sites from physical damage.

### ***Non-Physical Disturbance***

The Humber Estuary SPA and Ramsar and the Thorne and Hatfield Moors SPA are vulnerable to disturbance through noise, vibration, light and visual presence of visitors, recreational activities and quarry operation activities.

Given the distance of the three safeguarded sites to the Ramsar site and the SPAs, it is not anticipated that there will be any direct, non-physical disturbance on the sites from the construction or operation of the sites (should the sites ever be worked).

The provision of extraction sites at these locations (should they ever be worked) could potentially increase the number of visitors to the Humber Estuary international sites and the Thorne and Hatfield

Moors international sites. This could result in non-physical disturbance to bird species from the Humber Estuary SPA and Ramsar site and the Thorne and Hatfield Moors SPA. However, it is considered likely that the large amount of green open space surrounding the three safeguarded sites will attract more visitors for activities (such as employees on their lunch break).

Therefore, there is not anticipated to be any adverse effects on integrity of these international sites from non-physical disturbance.

### ***Changes in Water Quality***

These three sites are not located adjacent to any watercourses or water bodies. Therefore there is no scope for a decrease in water quality of aquatic habitats.

Furthermore, a Water Management Plan will need to be provided by the Contractors for each site should any ground water pumped as a result of the extraction process. This plan will state how the pumped water will be managed to ensure that there is no deterioration in groundwater or surface water quality. Should water need to be discharged into a watercourse, a Discharge Consent will need to be obtained from the Environment Agency. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through the HRA where necessary) as part of this process. Therefore the Discharge Consent will ensure that the water quality and water flow of the watercourse will not be adversely affected.

Therefore, there is not anticipated to be any adverse effects on integrity of these international sites from changes to water quality should these three mineral safeguarding sites ever be worked.

### ***Water Abstraction***

See Physical Damage section above.

## **5.9.2. CS21d – Barrow Tileries, Barrow Haven**

This site is safeguarded for its clay reserves. It is located immediately adjacent to the Humber Estuary SAC, SPA and Ramsar site and is located approximately 32.5 km north-east of Thorne Moor SAC, 38.7 km north-east of Hatfield Moor SAC and 32.5 km north-east of Thorne and Hatfield Moors SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

### ***Physical Loss***

Natural England has confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats. Given the distances between this safeguarded site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no direct physical loss to these sites. Given the distance to the Thorne and Hatfield Moors SPA, it is considered that there will be no indirect physical loss of habitats being used by the qualifying bird species, nightjar, outside of the SPA.

The safeguarded site is located on an area of land immediately adjacent to the Humber Estuary. Aerial photographs confirm that the site consists of areas of arable land and two large water bodies. It is likely, given the proximity of this site to the Humber Estuary, that birds from the SPA and Ramsar site use this site for foraging and high tide roosting purposes. Should this site be worked for clay extraction in the future, there is the potential for loss of habitats used by qualifying bird species from the Humber Estuary SPA and Ramsar. It should be noted that Policy CS21 seeks to safeguard the site only. It does not allocate the site for mineral extraction and does not guarantee that this will ever occur.



However, there is a potential conflict between the potential working of this safeguarded site (which may or may not occur) and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

A key vulnerability of the Thorne and Hatfield Moors international sites is a change in hydrology, affecting groundwater flows within the site. Should groundwater levels decrease there is a potential for the active raised bogs, for which the SAC is designated, would become degraded.

The Humber Estuary international sites are not as vulnerable to changes in groundwater levels as the Thorne and Hatfield Moors international sites. However, it is acknowledged that a change in groundwater levels may affect areas of land adjacent to the Estuary used by bird species from the SPA and Ramsar site for foraging and high tide roosting purposes.

Should this site ever be subject to extraction, there is a possibility that the quarrying may lead to a draw down in ground water levels in the areas surrounding the site. In free draining soils this extends up to 600 m from the extraction site (Natural England, 07/10/10). Given the distance of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites from this safeguarded mineral site it is unlikely that, if this site was ever worked, it would cause any physical damage to these international sites.

Furthermore, the River Trent separates this site from the Thorne and Hatfield Moors international sites. This watercourse forms a hydrological barrier and is likely to buffer any potential impacts from pumping of groundwater during the extraction process (should this ever occur at this safeguarded site).

Given the distance to the Thorne and Hatfield Moors international sites, it is considered that recreation effects (and the associated physical damage) from this safeguarded site are extremely unlikely.

However, should this safeguarded site ever be worked, it could potentially increase the number of visitors to the Humber Estuary international sites (due to its extremely close proximity to the estuary and the potential for people to visit the Humber on their lunch breaks). This could cause damage of the habitats within the SAC (such as reedbeds and saltmarsh) through abrasion (damage caused by as a result of recreational pedestrian activities). There is a potential conflict between the potential working of this safeguarded site (which may or may not occur) and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Non-Physical Disturbance***

The Humber Estuary SPA and Ramsar and the Thorne and Hatfield Moors SPA are vulnerable to disturbance through noise, vibration, light and visual presence of visitors, recreational activities and quarry operation activities.

Given the distance of the safeguarded site to the Thorne and Hatfield Moor SPA, it is not anticipated that there will be any direct, non-physical disturbance on the sites from the construction or operation of the site (should it ever be worked). However, the operation of the site may cause disturbance to the qualifying bird species using the estuary habitats adjacent to the site (through noise, vibration, lighting and visual presence of people and vehicles).

Furthermore, should this safeguarded site ever be worked, it could potentially increase the number of visitors to the Humber Estuary international sites (due to its extremely close proximity to the estuary and the potential for people to visit the Humber on their lunch breaks). This could cause disturbance

to the qualifying bird species using the estuary habitats adjacent to the site (e.g. through staff walking up and down the estuary edges during lunch breaks or before and after work).

As such, there is a potential conflict between the potential working of this safeguarded site (which may or may not occur) and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

#### ***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS21a, CS21b and CS21c – see above).

#### ***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS21a, CS21b and CS21c – see above).

### **5.9.3. CS21e – Yarborough Gullet, Scunthorpe**

This site is safeguarded for its ironstone reserves. It is a large area of land around the north-eastern edge of Scunthorpe stretching from Low Risby (the northern extent) to Wressle (the southern extent). The B1207 forms the eastern boundary of the safeguarded site, while the settlement edge forms the western boundary.

It is located approximately 4.7 km west of Humber Estuary SAC and Ramsar site and 7.8 km south of Humber Estuary SPA and 14.9 km east of Thorne Moor SAC, 20.3 km east of Hatfield Moor SAC and 14.9 km east of Thorne and Hatfield Moors SPA.

#### ***Physical Loss***

Natural England has confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats. Given the distances between this safeguarded site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA (over 14.9km), it is considered that there will be no direct physical loss to these sites. Given the distance to the Thorne and Hatfield Moors SPA it is considered that there will be no indirect physical loss of habitats being used by the qualifying bird species, nightjar, outside of the SPA.

The safeguarded site is located within 7 km of the Humber Estuary. Natural England has confirmed that birds from this site are likely to travel up to 7 km from the SPA and Ramsar site to get to foraging and high tide roosting habitats. Aerial photographs confirm that the safeguarded site consists of areas of arable land and areas of woodland. It is likely, given the proximity of this site to the Humber Estuary, that birds from the SPA and Ramsar site use this site for foraging and high tide roosting purposes. Should this site be worked for ironstone extraction in the future, there is the potential for loss of habitats used by qualifying bird species from the Humber Estuary SPA and Ramsar. It should be noted that Policy CS21 seeks to safeguard the site only. It does not allocate the site for mineral extraction and does not guarantee that this will ever occur.

However, there is a potential conflict between the potential future working of this safeguarded site (which may or may not occur) and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

A key vulnerability of the Thorne and Hatfield Moors international sites is a change in hydrology, affecting groundwater flows within the site. Should groundwater levels decrease there is a potential for the active raised bogs, for which the SAC is designated, would become degraded.

The Humber Estuary international sites are not as vulnerable to changes in groundwater levels as the Thorne and Hatfield Moors international sites. However, it is acknowledged that a change in groundwater levels may affect areas of land adjacent to the Estuary used by bird species from the SPA and Ramsar site for foraging and high tide roosting purposes.

Should this site ever be subject to extraction, there is a possibility that the quarrying may lead to a draw down in ground water levels in the areas surrounding the site. Given the distance of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites from this safeguarded mineral site it is unlikely that, if this site was ever worked, it would cause any physical damage to these international sites (this would need confirmation as part of the planning application process).

Furthermore, the River Trent separates this site from the Thorne and Hatfield Moors international sites. This watercourse forms a hydrological barrier and is likely to buffer any potential impacts from pumping of groundwater during the extraction process (should this ever occur at this safeguarded site).

Given the distance to the Thorne and Hatfield Moors international sites it is considered that recreation effects (and the associated physical damage, e.g. from people visiting the sites on their lunch breaks) from this safeguarded site are extremely unlikely.

However, should this safeguarded site ever be worked, it could potentially increase the number of visitors to the Humber Estuary international sites (due to its proximity to the estuary and people visiting the Humber in their lunch breaks). This could cause damage of the habitats within the SACs through abrasion (damage caused by as a result of recreational pedestrian activities).

Therefore there is a potential conflict between the potential future working of this safeguarded site and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SAC, SPA and Ramsar site.

### ***Non-Physical Disturbance***

The Humber Estuary SPA and Ramsar and the Thorne and Hatfield Moors SPA are vulnerable to disturbance through noise, vibration, light and visual presence of visitors, recreational activities and quarry operation activities.

Given the distance of the safeguarded site to the Humber Estuary SPA and Ramsar site and the Thorne and Hatfield Moor SPA it is not anticipated that there will be any direct, non-physical disturbance on these sites from the construction or operation of the sites (should the safeguarded mineral site ever be worked).

The provision of an extraction site at this location (should it ever be worked) could potentially increase the number of visitors to the Humber Estuary international sites and the Thorne and Hatfield Moors international sites (through people visiting the sites during their lunch breaks). This could result in non-physical disturbance to bird species from the Humber Estuary SPA and Ramsar site and the Thorne and Hatfield Moors SPA. However, it is considered likely that the large amount of green open space surrounding Scunthorpe and the nearby nature reserves will attract more visitors for activities.

Therefore, there are not anticipated to be any adverse effects on integrity of Humber Estuary international sites or Thorne and Hatfield Moors international sites from non-physical disturbance.

***Changes in Water Quality***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS21a, CS21b and CS21c – see above).

***Water Abstraction***

No adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA are anticipated (as outlined for Development CS21a, CS21b and CS21c – see above).

## 5.10 Policy CS26 – Strategic Transport Infrastructure Proposals

This policy states that the Council will support strategic infrastructure proposals to enhance North Lincolnshire's internal and external transport connections and provide access to the areas key strategic economic development.

The Council will not be responsible for carrying out the infrastructure proposals but will seek to support the parties that put forward the planning applications, providing that they adhere to the policies within the Core Strategy DPD.

The developments outlined in Policy CS26 are developments that the Council will support if and when they are put forward by developers. The policy does not commit to these developments taking place. As such, if it is not possible to deliver these developments, this would not affect the deliverability of the plan.

### 5.10.1. CS26a – Dualling of the A160 South Humber Bank Access Road

This scheme has recently been progressed by the Highways Agency. A preferred route was announced in March 2010<sup>63</sup>. The preferred route includes upgrading the road to dual carriageway (to help relieve traffic congestion), improving two roundabouts, providing a new road bridge and relocating a roundabout. The need for an Environmental Statement (part of the EIA process) has been identified by the Highways Agency. It is anticipated that the road will start construction in 2013.

Although this scheme will be assessed in detail by the Highways Agency, an assessment has been completed here to determine the deliverability of the scheme in terms of the HRA process and the Core Strategy DPD.

This scheme is located, at its closest, approximately 37.7 km from the Thorne and Hatfield Moors international sites. Given this distance it is considered that there will be adverse effects on integrity of these sites from physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction. Therefore, these international sites are not mentioned further in this section.

This scheme, at its closest, is located approximately 1.2 km from the Humber Estuary SAC, SPA and Ramsar site.

The possible adverse effects arising from development in this area on the Humber Estuary SAC, SPA and Ramsar site are outlined below.

#### ***Physical Loss***

The scheme is located approximately 1.2 km from the Humber Estuary SAC, SPA and Ramsar site and will involve land take immediately adjacent to the existing A160 only. Given the distance between this scheme and the Humber Estuary SAC, SPA and Ramsar site it is considered that there will be no direct physical loss to these sites.

The majority of this road is surrounding by existing industry. However, there are areas of agricultural land to the south of the A160 (in the middle section of the road) and to the north and south of the A160 at its western extent. It is likely, given the proximity of this site to the Humber Estuary, that birds from the SPA and Ramsar site use this site for foraging and high tide roosting purposes. Furthermore, it appears that a field to the south of the A160 (at National Grid Reference TA159162)

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<sup>63</sup> A160 – Port of Immingham Improvements – Preferred Route Announcement Booklet, produced by the Highways Agency in March 2010

supports greater than 1% of the cited Humber Estuary population of curlew (annual maxima)<sup>64</sup>. It is possible that this area of land also supports other qualifying bird species from the Humber Estuary SPA and Ramsar site.

The exact land take of the road is not known and so a detailed assessment of effects on bird species from the SPA and Ramsar site is not possible at this stage. However, there is a potential conflict between this road scheme and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

The purpose of this scheme is to reduce traffic congestion. As such it is not anticipated that the changes to the proposed road will lead to a change in the way people use the road (or the South Humber Bank) from its current usage.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites from physical damage.

### ***Non Physical Disturbance***

The A160 is currently a well used road and is very congested. The improvements to this road, once in operation, should not lead to any additional non-physical disturbance (e.g. through noise, light and vibration) to birds using habitats outside the boundary of the Humber Estuary SPA and Ramsar site as the road is already in use and birds in the area (if present) are likely to be habituated to the disturbance levels. This is supported by a study on Salt End mudflats which found that most disturbing activity to birds involved humans walking onto the mudflats while regular vehicular and machinery produced the least disturbance (Scott Wilson, 2010<sup>65</sup>).

However, the construction of the road improvements may cause disturbance to qualifying bird species using the land adjacent to the A160 (through construction noise, vibration and movement of people and plant). There is a potential conflict between the construction of the A160 improvements and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Changes in Water Quality***

The manner in which surface water run-off will be dealt with will be determined as part of the planning application. However, there is an existing road present in this location and it is likely that the new road will discharge using the same infrastructure. The discharge consents, where applicable, will have to be reviewed with the Environment Agency as part of the planning application process. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through HRA where necessary) as part of this process.

Therefore, no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated.

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<sup>64</sup> SHBZ Functional Capacity Study – Appendix 1: Field Usage Analysis by Key Species (Tier 1), Report to Mott MacDonald, Institute of Estuarine and Coastal Studies, University of Hull (19<sup>th</sup> May 2009)

<sup>65</sup> Scott Wilson (2010) Volume 2: Technical Appendix 11M, *Literature Review of relevant studies relating to disturbance of waterbirds*



### ***Water Abstraction***

It is considered unlikely that this road scheme would result in any form of water abstraction. Therefore, no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated.

#### **5.10.2. CS26b – Dualling or Upgrading the A15**

This scheme is a long term aspiration to improve road access to the area and help to provide an alternative route for freight to and from the South Humber ports to access the A1 at Newark. Improvements will include with creating a dual carriageway or upgrading the A15.

The section of the A15 to be affected runs from Junction 4 of the M180 (to the south-east of Scunthorpe) and the junction of the A15 with the A46 to the north of Lincoln. The scheme is based in North Lincolnshire and West Lindsey and so requires joint working between Councils. To date no assessment work has been undertaken on this scheme.

The scheme, at its closest, is located approximately 11.8 km south-east of the Humber Estuary SAC and Ramsar site and 16.7 km south-east of the Humber Estuary SPA. It is located approximately 23.1 km west of the Hatfield Moor SAC, 21 km south-west of the Thorne Moor SAC and 21 km west of the Thorne and Hatfield Moors SPA.

Given the distance of the proposed scheme from the Humber Estuary international sites and the Thorne and Hatfield Moors international sites and as it is located in the Green Zone (see Section 2.5 above) it is considered that there will not be any adverse effects on integrity to these international sites through physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction.

#### **5.10.3. CS26c – Access Improvements to Scunthorpe from the West**

This scheme intends to improve the local road network in the western part of Scunthorpe to facilitate better access to the town and reduce congestion currently experienced. No specific schemes have been assessed or progressed. However, two proposals include improvements to the Berkeley Circle roundabout (to allow smoother flow of traffic) and improvements to access to the motorway network (particularly in relation to the Lincolnshire Lakes development). No specific plans are available and no assessment work has been completed to date.

The western edge of Scunthorpe is located approximately 2.5 km east of the Humber Estuary SAC and Ramsar site and 8.1 km south-east of the Humber Estuary SPA. It is located approximately 10.7 km east of the Thorne Moor SAC, 14.3 km north-east of the Hatfield Moor SAC and 10.7 km east of the Thorne and Hatfield Moors SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

### ***Physical Loss***

Given the distances between the west of Scunthorpe and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no direct physical loss to these sites. Given the distance to the Thorne and Hatfield Moors SPA it is considered that there will be no indirect physical loss of habitats used by the qualifying bird species, nightjar, from this development (Natural England have confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats).

Depending on the specific footprint of the road schemes, there is the potential for a conflict with the Humber Estuary SPA and Ramsar site. Birds from the nearby SPA and Ramsar site may be using

the areas of agricultural land along the western edge of Scunthorpe for foraging or high tide roosting purposes. The proposed improvement schemes may cause the loss of areas of land used by qualifying bird species. However, the potential of birds being present immediately adjacent to the road scheme locations is reduced due to the levels of disturbance likely to be caused by the high levels of cars travelling along these roads. Despite this, a potential conflict between the provision of the road improvements to the west of Scunthorpe and the conservation objectives for the international sites may occur. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

The purpose of this scheme is to reduce traffic congestion. Therefore it is not anticipated that the changes to the roads will lead to a change in the way people use these traffic networks from their current usage.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites or the Thorne and Hatfield Moors international sites from physical damage.

### ***Non Physical Disturbance***

The roads to the west of Scunthorpe are currently well used. The improvements to roads in this area, once in operation, should not lead to any additional non-physical disturbance (e.g. through noise, light and vibration) to birds using habitats outside the boundary of the Humber Estuary SPA and Ramsar site as the road is already in use and birds in the area (if present) are likely to be habituated to the disturbance levels.

However, the construction of the road improvements may cause disturbance to qualifying bird species using the land adjacent to the roads (through construction noise, vibration and movement of people and plant). There is a potential conflict between the construction of the road improvements and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

Given the distance to the Thorne and Hatfield Moors international sites it is not anticipated that there will be any non-physical disturbance on these international sites from this scheme.

### ***Changes in Water Quality***

The manner in which surface water run-off will be dealt with will be determined as part of the each planning application that will arise with each road improvement development. However, as existing roads are to be improved and it is likely that the existing road drainage and infrastructure system will continue to be used. The discharge consents, where applicable, will have to be reviewed with the Environment Agency as part of the planning application process. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through HRA where necessary) as part of this process.

Therefore, no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne and Hatfield Moors international sites are anticipated.

### ***Water Abstraction***

It is considered unlikely that this road scheme would result in any form of water abstraction. Therefore no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site and the Thorne and Hatfield Moors international sites are anticipated.



#### 5.10.4. CS26d – Improvements to the A18 and Local Roads at Sandtoft Airfield

This scheme relates to the provision of a suitable transport access to the proposed Sandtoft Business Park. This will involve upgrading the surrounding roads to accommodate increased traffic. As part of the Sandtoft Evidence Base<sup>66</sup> a study of the Highway Access options was completed which determined that providing a new link road from Junction 2 of the M180 or improving the route to the north of the site from Junction 2 of the M180 were the most feasible approaches. No assessment of environmental effects of these options has been completed to date.

Junction 2 of the M180 is located approximately 6 km south-west of the Humber Estuary SAC and Ramsar site, 14.8 km south-west of the Humber Estuary SPA, 5.9 km east of the Hatfield Moor SAC, 5.7 km south-east of the Thorne Moor SAC and 5.9 km east of the Thorne and Hatfield Moor SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

##### ***Physical Loss***

Given the distances between Junction 2 of the M180 and the international sites, it is considered that there will be no direct physical loss to the Humber Estuary SAC, SPA and Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, depending on the specific access routes chosen for the Sandtoft Business Park there is the potential for a conflict with the Thorne and Hatfield Moors SPA and the Humber Estuary SPA and Ramsar site. If existing roads are to be improved it is unlikely that the scheme would be used by birds from the international sites will be effected (they are unlikely to use land immediately adjacent to roads for foraging or roosting purposes). However, a new road is to be constructed on land suitable for qualifying features of the international sites there is the potential for the loss of land of importance to the SPAs and Ramsar site. As such, a potential conflict between the provision of road improvements around Junction 2 of the M180 land and the conservation objectives for the Thorne and Hatfield Moors SPA and the Humber Estuary SPA and Ramsar site may occur. Without mitigation, this may lead to adverse effects on integrity of this international site.

##### ***Physical Damage***

The purpose of this scheme is to increase access to the Sandtoft Business Park. The improved access to the site could potentially increase the number of visitors to the Humber Estuary international sites and the Thorne and Hatfield Moors international sites (as more people will be able to access the site for Business Park for employment purposes). This could cause damage of the habitats within the SACs through abrasion (damage caused by as a result of recreational pedestrian activities).

However, there is a large amount of green open space surrounding the Sandtoft Business Park and it is therefore unlikely that development in this location would cause an increase in recreational pressure at the Humber Estuary SAC, SPA and Ramsar site (workers at lunchtime are more likely to visit local green space rather than travel to the internationally important sites).

The closest international sites are the Hatfield Moor SAC and Thorne and Hatfield Moors SPA. Communication with Natural England (27/09/2010) confirmed that the Thorne and Hatfield Moors international sites are capable of absorbing increased numbers of visitors. As such, should recreation increase in the international site, it is not anticipated that the provision of employment land will lead to adverse effects on integrity of this international site.

<sup>66</sup> <http://www.northlincs.gov.uk/NorthLincs/Environment/planning/SpatialPlanning/Sandtoftevidencebase.htm> (July 2009)

The Thorne Moor SAC and Hatfield Moor SAC are sensitive to changes in air quality (with deterioration in air quality potentially leading to a deterioration in the active raised bog habitats that the site is designated for). Road transport emits a number of air pollutants including oxides of nitrogen, volatile organic compounds, ammonia, heavy metals and particulates. Increases in concentrations occur usually within 200 m of a major road<sup>67</sup>. It is not considered that the improved access proposals for Sandtoft Business Park will lead to significant increases in road traffic volume either alone or in combination with other developments in the area. At the nearest point, the Hatfield Moors SAC is 700 m from the nearest motorway (the M180), which is most likely to see the greatest increase in traffic flow. It is therefore considered that there will be no adverse effects on the integrity of Thorne Moor SAC or Hatfield Moor SAC through a deterioration in air quality.

Therefore, no adverse effects on the integrity of the six international sites are anticipated.

### ***Non Physical Disturbance***

The M180 and the roads surrounding Junction 2 are currently well used. The improvements to roads in this area, once in operation, should not lead to any additional non-physical disturbance (e.g. through noise, light and vibration) to birds using habitats outside the boundary of the Humber Estuary SPA and Ramsar site as the road is already in use and birds in the area (if present) are likely to be habituated to the disturbance levels.

The construction of the road improvements may cause disturbance to qualifying bird species using the land adjacent to the roads (through construction noise, vibration and movement of people and plant). However, there are large areas of agricultural land and other green space surrounding the Sandtoft Business Park which would be capable of absorbing any birds that are temporarily displaced by construction activities.

The construction and operation of a new access road from Junction 2 of the M180 may cause non-physical disturbance to any qualifying bird species using the area of land to be lost.

There is a potential conflict between the construction of the road improvements and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Thorne and Hatfield Moors SPA and the Humber Estuary SPA and Ramsar site.

### ***Changes in Water Quality***

The manner in which surface water run-off will be dealt with will be determined as part of the each planning application that will arise with each road improvement development. However, if existing roads are to be improved and it is likely that the existing road drainage and infrastructure system will continue to be used. The discharge consents, where applicable, will have to be reviewed with the Environment Agency as part of the planning application process.

If a new access road is to be constructed, as part of the planning application process, it will be necessary to obtain Discharge Consents for any surface water run-off from the Environment Agency. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through HRA where necessary) as part of this process.

Therefore, no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site and the Thorne and Hatfield Moors international sites are anticipated.

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<sup>67</sup> (DMRB IAN 61/04, 2005). Guidance for Undertaking Environmental Assessment of Air Quality for Sensitive Ecosystems in Internationally Designated Nature Conservation Sites and SSSI

### ***Water Abstraction***

It is considered unlikely that this road scheme would result in any form of water abstraction. As such no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site and the Thorne and Hatfield Moors international sites are anticipated.

#### **5.10.5. CS26e – Potential Realignment of the A1077**

Part of the A1077 runs alongside the Humber Estuary (to the west of South Ferriby). The Environment Agency's Humber Flood Defence Strategy highlighted that there is a potential threat to this stretch of the A1077 and the flood defences in this area (due to erosion caused by the action of the estuary waters adjacent to Reeds Island).

The Flood Defence Strategy identified that major works may be needed within the next 10 years, including the need for the A1077 to be realigned. There are no firm plans in place to carry out this work (with no indication of where the new road may be provided) and no assessment work has been completed. There are no details available of how the road will be constructed (e.g. the construction methods required such as piling) and no detailed plans showing its exact location. Furthermore, should this development come forward it will have to adhere to Policy CS17 - Biodiversity in the Core Strategy DPD which states that internationally protected sites will be safeguarded from inappropriate development (thus the Humber Estuary international sites will be protected by this policy).

The road scheme is located immediately adjacent to the Humber Estuary SAC, SPA and Ramsar site and is located approximately 20.7 km north-east of the Thorne and Hatfield Moors international sites.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

### ***Physical Loss***

Given the distances between this scheme and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no direct physical loss to these sites.

Natural England has confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats. Therefore, given the distance to the Thorne and Hatfield Moors SPA, it is considered that there will be no indirect physical loss of habitats being used by the qualifying bird species, nightjar, outside of the SPA.

Depending on the location of the realigned road, there is the potential for a conflict with the Humber Estuary SPA and Ramsar site. Aerial photographs confirm that the land adjacent to the existing road consists of arable farmland. Given the close proximity of the existing road to the estuary, and the likelihood that the road will be constructed near to this existing road, it is possible that the scheme will result in the loss of land that qualifying species of birds from the SPA and Ramsar site are using for foraging or high tide roosting purposes. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

The purpose of this scheme is to move the existing road further away from the Humber Estuary. As such it is not anticipated that the changes to the roads will lead to a change in the way people use this road. Therefore, it is not anticipated that the road scheme would lead to physical damage to the Humber Estuary SAC, SPA or Ramsar site (e.g. through abrasion from recreation).

Given the distance to the Thorne and Hatfield Moors international sites it is considered that there would be any physical damage to this international site.

Therefore no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne and Hatfield Moors international sites are anticipated.

#### ***Non Physical Disturbance***

The A1077 is currently a well used road. Realignment of this road, once in operation, should not lead to any additional non-physical disturbance (e.g. through noise, light and vibration) to any birds using habitats outside the boundary of the Humber Estuary SPA and Ramsar site. This is because the road is already in use and birds in the area (if present) are likely to be habituated to the disturbance levels. The realigned road is likely to be further away from the Humber Estuary itself and as such this may help to reduce the current levels of non physical disturbance that the international site is experiencing at this location.

However, the construction of the new road may cause disturbance to qualifying bird species using the land adjacent to the roads (through construction noise, vibration and movement of people and plant). The level of disturbance caused will depend on the types of construction methods to be used (information not yet available and will be determined by the developer if and when the scheme goes ahead). Should disturbance be caused during construction there are large areas of agricultural land and other green space surrounding the A1077 at this location and these areas would be capable of absorbing any birds that are temporarily displaced by construction activities.

There is a potential conflict between the construction of the road improvements and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

Given the distance to the Thorne and Hatfield Moors international sites it is considered that there would not be any adverse effects on integrity from non physical disturbance.

#### ***Changes in Water Quality***

The manner in which surface water run-off will be dealt with will be determined as part of the planning application that will arise to support the development. However, it is likely that the existing road drainage and infrastructure system will be moved and will continue to be used. The discharge consents may have to be reviewed with the Environment Agency as part of the planning application process. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through the HRA process) as part of this process.

Therefore no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne and Hatfield Moors international sites are anticipated.

#### ***Water Abstraction***

It is considered unlikely that this road scheme would result in any form of water abstraction. As such no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site and Thorne and Hatfield Moors international sites are anticipated.

### **5.10.6. CS26f (Upgrades to the South Humber Main Line Between Doncaster and Immingham) and CS26g (Improvements to the Brigg Line)**

**CS26f:** This scheme will involve line speed and gauge improvements to the railway line between the East Coast Main Line between Doncaster and the South Humber ports at Killingholme/Immingham (via Scunthorpe). This will allow better access for freight to and from the ports. Some improvements have already taken place.

**CS26g:** This scheme will involve a number of improvements to improve the rail network to support better access for freight to and from the South Humber Bank. This will involve increasing line speed

and signalling improvements at Wrawby junction (near Barnetby-le-Wold) and upgrades to the line through Brigg to accommodate more freight trains.

These schemes cross large parts of North Lincolnshire. These schemes will involve minor changes to the existing railway lines only and will not involve any land take. As such it is not anticipated that these schemes will alter existing conditions in these locations, with the exception of more trains travelling up and down the lines. This is of particular concern in the South Humber Bank area due to possible non-physical disturbance caused to qualifying bird species from the Humber Estuary SPA and Ramsar site using land adjacent to the railway line for foraging and high tide roosting purposes. However, the birds in this area are likely to be habituated to trains passing through these areas. Therefore it is considered that there will be no adverse effects on the integrity of the Humber Estuary SPA and Ramsar site from these changes.

It is considered that there will be adverse effects from physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction on the integrity of the Humber Estuary international sites or the Thorne and Hatfield Moors international sites associated with these two schemes.

#### **5.10.7. CS26h – Creation of Killingholme Loop**

This scheme was put forward by Network Rail in their 2007 Freight Utilisation Strategy<sup>68</sup> to help improve rail access to the South Humber Bank area (in order allow for further growth to take place and make more efficient use of the rail network).

The proposal includes re-opening the former line between Goxhill and Killingholme between the existing Ulceby to Barton upon Humber line and the existing network close to the Humber Sea Terminal.

This scheme will be assessed in detail by Network Rail. However, an assessment has been completed here to determine the deliverability of the scheme in terms of the HRA process and the Core Strategy DPD. Should this development come forward it will have to adhere to Policy CS17 - Biodiversity in the Core Strategy DPD which states that internationally protected sites will be safeguarded from inappropriate development (thus the Humber Estuary international sites will be protected by this policy).

This scheme is located, at its closest, approximately 35 km from the Thorne and Hatfield Moors international sites. Given this distance it is considered that there will be adverse effects on integrity of these sites from physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction. Therefore these international sites are not mentioned further in this section.

This scheme, at its closest, is located approximately 0.8 km west of the Humber Estuary SAC, SPA and Ramsar site.

The possible adverse effects arising from development in this area on the Humber Estuary SAC, SPA and Ramsar site are outlined below.

#### ***Physical Loss***

The route of the former railway line that is proposed to be re-opened is still present in the landscape and is surrounded by arable farmland to the north and south. Aerial photographs have confirmed that the former railway line itself is now covered in trees and shrubs. This scheme will involve land

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<sup>68</sup> Strategic Business Plan Supporting document Freight Strategy, Network Rail (October 2007): [http://www.networkrail.co.uk/browse%20documents/StrategicBusinessPlan/Other%20supporting%20documents/Freight%20strategy%20\(Final\).pdf](http://www.networkrail.co.uk/browse%20documents/StrategicBusinessPlan/Other%20supporting%20documents/Freight%20strategy%20(Final).pdf)

take within the disused railway line. However, given the distance between this scheme and the Humber Estuary SAC, SPA and Ramsar site, it is considered that there will be no direct physical loss to these sites.

The wooded habitats along the disused railway line, where land take will occur, do not offer optimal habitats for qualifying bird species from the Humber Estuary SPA and Ramsar site to use (with these birds, in general, preferring large, open fields, with short (<10 cm) sward heights, within 0.5 km of the sea or estuary<sup>69</sup>).

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites (i.e. by cause any physical loss of habitats being used by birds from the Humber Estuary SPA and Ramsar site).

### ***Physical Damage***

The purpose of this scheme is to improve access to and from the South Humber Bank ports for the transport of freight. Therefore it is not anticipated that re-opening the former railway line will lead to a change in the way people access the South Humber Bank or its current usage. As such it is not anticipated that the rail scheme would lead to physical damage to the Humber Estuary SAC, SPA or Ramsar site (e.g. through abrasion from recreation).

### ***Non Physical Disturbance***

It is likely, given the proximity of this site to the Humber Estuary, that birds from the SPA and Ramsar site use the habitats adjacent to the disused railway line for foraging and high tide roosting purposes.

A study of fields to the north and south of the disused railway line between the Humber Sea Terminal and the eastern boundary of East Halton (covering approximately half of the length of the former railway line) was carried out by Mott MacDonald<sup>70</sup>. This study determined that fields immediately north and south of the disused railway line are being used by:

- **golden plover:** with fields supporting less than 1% of the cited Humber Estuary SPA population (annual maxima);
- **lapwing:** with fields supporting both less than, and greater than, 1% of the cited Humber Estuary SPA population (annual maxima);
- **ruff:** with a field immediately south of the disused railway line supporting less than 1% of the cited Humber Estuary SPA population (annual maxima); and,
- **curlew:** with fields supporting both less than, and greater than, 1% of the cited Humber Estuary SPA population (annual maxima).

It is likely that other species of birds from the SPA and Ramsar site are also using these fields for foraging and high tide roosting purposes.

The construction and operation of the new stretch of railway line may cause disturbance to qualifying bird species using the land adjacent to the railway (through noise, vibration, lighting and visual presence e.g. movement of trains). However, the trees that currently line the disused railways, if left in place, could act as screening between the operational train line and the adjacent fields, minimising effects from non-physical disturbance.

<sup>69</sup> SHBZ Functional Capacity Study, Report to Mott MacDonald, Institute of Estuarine and Coastal Studies, University of Hull (19th May 2009)

<sup>70</sup> SHBZ Functional Capacity Study – Appendix 1: Field Usage Analysis by Key Species (Tier 1), Report to Mott MacDonald, Institute of Estuarine and Coastal Studies, University of Hull (19th May 2009)



This may also lead to an increase in the number of trains passing through the North Killingholme Haven Pits SSSI which forms part of the Humber Estuary SPA and Ramsar site (the existing train line passes through this SSSI). The North Killingholme Haven Pits are important for wide range of birds including wintering and breeding avocet, wintering and passage dunlin, redshank, black-tailed godwit and various waterfowl. The Mott MacDonald report determined that the North Killingholme Haven Pits are being used by more than 1% of the cited Humber SPA population of lapwing, ruff and curlew. It is currently not known if the construction of the Killingholme Loop will increase train frequency within the SSSI (depending on scheme designs it may help to decrease the number of trains passing through this area). However, should train frequency increase it is possible that this would lead to increased levels of disturbance (noise, vibration and visual disturbance) in this important bird area.

There is a potential conflict between railway scheme and the conservation objectives for the international sites during both construction and operation of the new railway line. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

#### ***Changes in Water Quality***

The manner in which surface water run-off will be dealt with will be determined as part of the planning application. However, drainage infrastructure will be present along the disused railway line and it is likely that the new railway line will discharge any run-off using the same infrastructure. The discharge consents, where applicable, will have to be reviewed with the Environment Agency as part of the planning application process. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through HRA where necessary) as part of this process.

Therefore, no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated.

#### ***Water Abstraction***

It is considered unlikely that this rail scheme would result in any form of water abstraction. As such no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site are anticipated.

#### **5.10.8. CS26i – Airport Surface Access**

This scheme is in support of the Humberside Airport Masterplan<sup>71</sup> and the proposed access improvements outlined within it. Improvements include:

- **Improved rail links:** more frequent rail services to stations that are close to the airport (specifically Bernetby approximately 5 km west of the airport) and improved connections between the stations and the airport (e.g. bus links);
- **Coach and bus services:** Improved coach and bus connections between to the airport;
- **Taxis:** Improved use of taxis to get to and from the airport; and,
- **Road links:** Construction of a new roundabout on the A18 junction for the airport, safety measures on the A18 between the airport and the M180 and construction of a new access road direct to the airport from the M180.

<sup>71</sup> Humberside Airport Masterplan (March 2007): [http://www.humbersideairport.com/huyweb.nsf/AttachmentsByTitle/huy-master-plan-2007-2030.pdf/\\$FILE/huy-master-plan-2007-2030.pdf](http://www.humbersideairport.com/huyweb.nsf/AttachmentsByTitle/huy-master-plan-2007-2030.pdf/$FILE/huy-master-plan-2007-2030.pdf)

The Humberside Airport and the proposed improvements are all located, at their closest, over 10.8 km from the Humber Estuary SAC, SPA and Ramsar site and 30.3 km from the Thorne Moor SAC, 32.7 km from the Hatfield Moor SAC and 30.3 km from the Thorne and Hatfield Moors SPA.

Given the distance of the proposed scheme from the Humber Estuary international sites and the Thorne and Hatfield Moors international sites and as it is located in the Green Zone (see Section 2.5 above) it is considered that there will not be any adverse effects on integrity to these sites through physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction.

#### **5.10.9. CS26j - Water Transport Schemes**

The purpose of this scheme is to encourage increased barge/boat movements inland from the South Humber Bank ports to transfer goods. For example, goods from larger vessels at the South Humber Banks ports will be transferred to smaller boats or barges and transported further inland to various locations via watercourses as an alternative to road haulage.

This scheme will potentially result in more boat movements along watercourses in North Lincolnshire. The scheme will use existing infrastructure and will not involve any land take. As such it is not anticipated that this scheme will alter existing conditions along watercourses with the exception of more boats/barges travelling up and down these waterways. It is not anticipated that this would lead to an increase in non-physical disturbance of qualifying bird species from the Humber Estuary and SPA using the watercourses themselves or land adjacent for foraging and high tide roosting purposes. Therefore there is potential for increased shipping (in terms of numbers of ships and numbers of movements of ships) to cause more disturbance to birds from the SPA and Ramsar site. However, respondents to the Footprint Ecology Report<sup>72</sup> felt that commercial shipping has no/little effect on birds. This is supported by the Humber Estuary Management Scheme Report (2006)<sup>73</sup>, which considers impacts of shipping and assesses 'vessel transits throughout the estuary on a continuous basis'. It reports that the birds are highly tolerant to low intensity engine noise and to continuous shipping activity. No adverse effect on integrity of the SPA/Ramsar is expected as a result of potential increases in shipping movements.

Therefore it is considered that there will be no adverse effects on the integrity of the Humber Estuary SPA and Ramsar site from these changes.

Pollution could result from increases in shipping movements, which increases the risk of oil spillage. An Oil Pollution Contingency Plan is in place for the Humber Estuary, led by the Association of British Ports<sup>74</sup>. If increased shipping occurs as a result this policy, this Contingency Plan, if required, will be reviewed and updated

It is considered that there will be no adverse effects through physical loss, physical damage, non-physical disturbance, changes to water quality or water abstraction on the integrity of the Humber Estuary international sites or the Thorne and Hatfield Moors international sites associated with this scheme.

#### **5.10.10. CS26k – Scunthorpe Urban Renaissance**

This will lead to a number of transport schemes to support the role of Scunthorpe as key centre for growth in North Lincolnshire (by ensuring that the town's road and rail network is suitable). The Scunthorpe urban renaissance programme proposed improvements to the town's key gateways (at

<sup>72</sup> Cruikshanks, K., Liley, D., Fearnley, H., Stillman, R., Harvell, P., Hoskin, R. and Underhill-Day, J. (2010) Desk based Study on Recreational Disturbance to birds on the Humber Estuary. Footprint Ecology, Dorset

<sup>73</sup> Manning, C.J. (2006). The Humber Management Scheme Report. Humber Management Scheme Annex I.

<sup>74</sup> Manning, C.J. (2006). The Humber Management Scheme Report. Annex I. Humber Management Scheme.



the west of the town) together with a series of renaissance routes along key corridors which improve their appearance. In terms of the Lincolnshire Lakes, suitable access is required to facilitate the delivery of the project, particularly from the road network. There is the potential for a new railway station to be included within the Lincolnshire Lakes scheme. The creation of a new railway station will form part of the Lincolnshire Lakes development (see assessment of Development CS4a in Section 5.4 above).

No proposals have currently been put forward and no assessment work has been carried out to date.

Scunthorpe is located approximately 1 km east of the Humber Estuary SAC and Ramsar site and 6.9 km south-east of the Humber Estuary SPA. It is located approximately 11.2 km east of the Thorne Moor SAC, 14.5 km north-east of the Hatfield Moor SAC and 11.2 km east of the Thorne and Hatfield Moors SPA.

The possible adverse effects arising from development in this area on the six international sites are outlined below.

### ***Physical Loss***

Given the distances between the Scunthorpe and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA, it is considered that there will be no direct physical loss to these sites. Given the distance to the Thorne and Hatfield Moors SPA it is considered that there will be no indirect physical loss of habitats used by the qualifying bird species, nightjar, from this development (Natural England have confirmed that birds from this site are likely to travel up to 6 km from the SPA to get to foraging and roosting habitats).

Depending on the specific footprint of the road schemes there is the potential for a conflict with the Humber Estuary SPA and Ramsar site. Birds from the nearby SPA and Ramsar site may be using the areas of Greenfield land along the edges of Scunthorpe for foraging or high tide roosting purposes. The improvement schemes may cause the loss of areas of land used by qualifying bird species. However, the potential of birds being present immediately adjacent to the road scheme locations is reduced due to the levels of disturbance likely to be caused by the high levels of cars travelling along these roads. Despite this, a potential conflict between the provision of the road improvements to the west of Scunthorpe and the conservation objectives for the international sites may occur. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

### ***Physical Damage***

The purpose of this scheme is to improve traffic flows in and out of Scunthorpe. As such it is not anticipated that the changes to the roads will lead to a change in the way people use these traffic networks from their current usage.

It is therefore considered that there will be no adverse effects on the integrity of Humber Estuary international sites or the Thorne and Hatfield Moors international sites from physical damage.

### ***Non Physical Disturbance***

The roads within Scunthorpe are currently well used. The improvements to roads in this area, once in operation, should not lead to any additional non-physical disturbance (e.g. through noise, light and vibration) to birds using habitats outside the boundary of the Humber Estuary SPA and Ramsar site as the road is already in use and birds in the area (if present) are likely to be habituated to the disturbance levels.

However, the construction of the road improvements may cause disturbance to qualifying bird species using the land adjacent to the roads (through construction noise, vibration and movement of

people and plant). There is a potential conflict between the construction of the road improvements and the conservation objectives for the international sites. Without mitigation, this may lead to adverse effects on integrity of the Humber Estuary SPA and Ramsar site.

Given the distance to the Thorne and Hatfield Moors international sites, it is not anticipated that there will be any adverse effects on integrity from non-physical disturbance as a result of this scheme.

#### ***Changes in Water Quality***

The manner in which surface water run-off will be dealt with will be determined as part of the each planning application that will arise with each road improvement development. However, as existing roads are to be improved and it is likely that the existing road drainage and infrastructure system will continue to be used. The discharge consents, where applicable, will have to be reviewed with the Environment Agency as part of the planning application process. The Environment Agency would require evidence that there would be no adverse effects on the environment (including international sites through HRA where necessary) as part of this process.

Therefore no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site or the Thorne and Hatfield Moors international sites are anticipated.

#### ***Water Abstraction***

It is considered unlikely that this road scheme would result in any form of water abstraction. Therefore no adverse effects on the integrity of the Humber Estuary SAC, SPA and Ramsar site and the Thorne and Hatfield Moors international sites are anticipated.

## 5.11 Summary of Results

Table 5.9 below provides a summary of the results of the Appropriate Assessment completed in Section 5 above.

Of the 29 development related aspects of each policy, 20 require some form of mitigation in order to avoid adverse effects on the integrity of the international sites (see Section 6 below).

It has been determined that a total of eight development related aspects do not require mitigation (CS21a, CS21b, CS21c, CS26b, CS26f, CS26g, CS26i and CS26j).

Development Aspects in Table 5.9 with the following marks adjacent to them mean:

\* Includes an assessment of development aspects also put forward in Policy CS1 – Spatial Strategy for North Lincolnshire;

\*\* Includes an assessment of development aspects also put forward in Policy CS12 – South Humber Bank Strategic Employment Site

**Table 5.9: Summary of Results of the Stage 2 - Appropriate Assessment**

| Policy Number | Development Reference                | Adverse Effects on Integrity Identified? | Details (Site and Effects Anticipated)   | Mitigation Required? |
|---------------|--------------------------------------|--|--|----------------------|
| CS4           | CS4a: Lincolnshire Lakes*            | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical loss, physical damage and non-physical disturbance.  | Yes                  |
| CS8           | CS8a: Housing in Scunthorpe*         | Yes                                      | <b>Humber Estuary SPA and Ramsar Site:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from the SPA and Ramsar site).                           | Yes                  |
|               | CS8b: Housing in Barton upon Humber* | Yes                                      | <b>Humber Estuary SPA and Ramsar Site:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from the SPA and Ramsar site).                           | Yes                  |
|               | CS8c: Housing in Crowle*             | Yes                                      | <b>Humber Estuary Ramsar Site and Thorne and Hatfield Moors SPA:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from the Ramsar site and SPA). | Yes                  |
|               | CS8d: Housing in Winterton*          | Yes                                      | <b>Humber Estuary SPA and Ramsar Site:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from   | Yes                  |

| Policy Number | Development Reference                        | Adverse Effects on Integrity Identified? | Details (Site and Effects Anticipated)   | Mitigation Required? |
|---------------|--|--|--|----------------------|
|               |  |  | the SPA and Ramsar site).  |                      |
| CS11          | CS11a: Employment in Scunthorpe              | Yes                                      | <b>Humber Estuary SPA and Ramsar Site:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from the SPA and Ramsar site).                                       | Yes                  |
|               | CS11b: Employment in Market Towns            | Yes                                      | <b>Humber Estuary SPA and Ramsar Site and the Thorne and Hatfield Moors SPA:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from the Ramsar site and SPA). | Yes                  |
|               | CS11c: Employment in Sandtoft Business Park* | Yes                                      | <b>Thorne and Hatfield Moors SPA:</b> Possible conflict identified if Greenfield land is to be lost to future development (possible loss of land used by qualifying bird species from the SPA).  | Yes                  |
| CS12          | CS12a: 900 ha of Employment Land*            | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical loss, physical damage and non-physical disturbance.  | Yes                  |
|               | CS12b: Safeguarding deep water channel       | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical loss, physical damage and non-physical disturbance.  | Yes                  |
|               | CS12c: New pipe routes                       | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical loss, physical damage and non-physical disturbance.  | Yes                  |
|               | CS12d: Opportunity for new port              | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical loss, physical damage and non-physical disturbance.  | Yes                  |
|               | CS12e: Improved access to the ports          | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical damage and non-physical disturbance.   | Yes                  |
| CS21          | CS21a: North Moor Road, Messingham           | No                                       |  | No                   |
|               | CS21b:                                       | No                                       |  | No                   |

| Policy Number | Development Reference                                  | Adverse Effects on Integrity Identified? | Details (Site and Effects Anticipated)  | Mitigation Required? |
|---------------|--|--|---|----------------------|
|               | Scallow Grove, Messingham                              |  |   |                      |
|               | CS21c: Black Nook Wood, near Messingham                | No                                       |   | No                   |
|               | CS21d: Barrow Tileries, Barrow Haven                   | Yes                                      | <b>Humber Estuary SAC, SPA and Ramsar site:</b> Possible conflict identified through physical loss, physical damage and non-physical disturbance.             | Yes                  |
|               | CS21e: Yarborough Gullet, Scunthorpe                   | Yes                                      | <b>Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through physical loss, and physical damage.   | Yes                  |
| CS26          | CS26a: A160 Improvements * **                          | Yes                                      | <b>Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through physical loss and non-physical disturbance.                                   | Yes                  |
|               | CS26b: Upgrading the A15                               | No                                       |   | No                   |
|               | CS26c: Access Improvements To Scunthorpe from the West | Yes                                      | <b>Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through physical loss and non-physical disturbance.                                   | Yes                  |
|               | CS26d: Improvements around Sandtoft Airfield           | Yes                                      | <b>Thorne and Hatfield Moors SPA and Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through physical loss and non-physical disturbance. | Yes                  |
|               | CS26e: Potential realignment of the A1077              | Yes                                      | <b>Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through physical loss and non-physical disturbance.                                   | Yes                  |
|               | CS26f: Upgrades to the South Humber Main Line * **     | No                                       |   | No                   |
|               | CS26g: Improvements to the Brigg                       | No                                       |   | No                   |

| Policy Number | Development Reference                     | Adverse Effects on Integrity Identified? | Details (Site and Effects Anticipated)  | Mitigation Required? |
|---------------|---|--|---|----------------------|
|               | Line *                                    |  |   |                      |
|               | CS26h: Creation of Killingholme Loop * ** | Yes                                      | <b>Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through non-physical disturbance.                   | Yes                  |
|               | CS26i: Airport Surface Access             | No                                       |   | No                   |
|               | CS26j: Water Transport Schemes            | No                                       |   | No                   |
|               | CS26k: Scunthorpe Urban Renaissance       | Yes                                      | <b>Humber Estuary SPA and Ramsar site:</b> Possible conflict identified through physical loss and non-physical disturbance. | Yes                  |

## 6. Mitigation

A HRA Stage 2 Appropriate Assessment has been undertaken of the North Lincolnshire Core Strategy DPD to establish if there is an adverse effect on the integrity on the Humber Estuary international sites and the Thorne and Hatfield Moors international sites. This has been completed on the eight policies which the HRA Stage 1 Screening deemed as having potential for likely significant effects on of the Humber Estuary SAC, SPA and Ramsar.

The assessment has found that 20 development related aspects of these policies require mitigation (as they have been found to have adverse effects on the integrity of international sites without mitigation in place).

### 6.1 Policy CS4 – Development CS4a

The Lincolnshire Lakes development will be delivered through the *Lincolnshire Lakes Area Action Plan* (AAP). In accordance with the Habitats Regulations, all land use plans that are not necessary for site management and/or its interest features must be subject to the HRA process. As such North Lincolnshire Council is committed to completing the necessary stages of the HRA process on the *Lincolnshire Lakes AAP* when it is produced.

The AAP will contain important details that are not currently available (i.e. development boundaries, housing locations, areas of habitat creation) to allow a thorough and accurate assessment of the effects of this development.

The HRA will include a detailed assessment of development site to determine if the areas of land to be lost form a functional part of the Humber Estuary SPA and Ramsar site. The HRA will also determine if there are likely to be effects from physical loss and non physical disturbance (i.e. recreation) on the River Trent (which forms part of the Humber Estuary SAC and Ramsar site).

As part of the development of the AAP, appropriate mitigation measures to protect the integrity of the Humber Estuary international sites will be designed and incorporated into the AAP. The mitigation will be agreed with Natural England.

Further assessments at the lower tier plan stage and, if necessary, the development control stage, will ensure that there will be no adverse effects on the integrity of international sites as the designs of the development will be sufficiently flexible in order to include the types of mitigation that may be required (i.e. to avoid adverse effects on the Humber Estuary SAC, SPA and Ramsar site).

### 6.2 Policy CS8 – Developments CS8a, CS8b, CS8c and CS8d

The locations of housing arising from this policy will be provided in the *Housing and Employment Land Allocations DPD*<sup>75</sup>. In accordance with the Habitats Regulations, all land use plans that are not necessary for site management and/or its interest features must be subject to the HRA process. As such North Lincolnshire Council is committed to completing the necessary stages of the HRA process on the *Housing and Employment Land Allocations DPD* when it is produced.

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<sup>75</sup> Stage 1 and Stage 2 of the HRA process has now been completed on the Housing and Employment Allocations DPD (produced by Atkins in November 2010). This assessment concluded no adverse effects on the integrity of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites and the findings were signed off by North Lincolnshire Council on 13<sup>th</sup> November 2010.



The *Housing and Employment Land Allocations DPD* will contain important details that are not currently available (i.e. exact housing locations and boundaries). This additional information will allow a thorough and accurate assessment of the effects of this development.

The HRA will include a detailed assessment of each housing site to determine if the areas of land to be lost form a functional part of the Humber Estuary SPA and Ramsar site (for development in Scunthorpe, Barton upon Humber, Crowle and Winterton) and the Thorne and Hatfield Moors SPA (for development in Crowle).

Allocations which may have adverse effects on the integrity of any international site will not be included in the *Housing and Employment Land Allocations DPD* unless suitable mitigation measures can be provided to ensure that there is no adverse effect on the integrity of the international sites. These mitigation measures must be agreed with Natural England.

The *Housing and Employment Land Allocations DPD* will include the following text for allocations in Scunthorpe, Crowle, Barton upon Humber and Winterton where no adverse effects on the integrity of international sites are identified (as a precautionary measure only):

*“Any proposed development likely to have a significant effect on a wildlife site of international importance will be subject to a Habitats Regulations Assessment by the Competent Authority. Where it cannot be demonstrated that a development proposal will not have an adverse effect on the integrity of a site of international importance to nature conservation, mitigation measures must be provided as part of the development proposals that adequately mitigates the effects.”*

And/or:

*“A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the international site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused”.*

Further assessments at the lower tier plan stage and, if necessary, the development control stage (as committed to in Section 3 of the Core Strategy DPD), will successfully ensure that there will be no adverse effects on the integrity of international sites as the designs of the development will be sufficiently flexible in order to include the types of mitigation that may be required (i.e. to avoid adverse effects on the Humber Estuary SPA and Ramsar site and the Thorne and Hatfield Moors SPA).

### 6.3 Policy CS11 – Developments CS11a, CS11b and CS11c

The locations of employment sites arising from this policy will be provided in the *Housing and Employment Land Allocations DPD*. In accordance with the Habitats Regulations, all land use plans that are not necessary for site management and/or its interest features must be subject to the HRA process. As such North Lincolnshire Council is committed to completing the necessary stages of the HRA process on the *Housing and Employment Land Allocations DPD* when it is produced.

The *Housing and Employment Land Allocations DPD*<sup>76</sup> will contain important details that are not currently available (i.e. employment locations and boundaries). This additional information will allow a thorough and accurate assessment of the effects of this development.

The HRA will include a detailed assessment of each employment site to determine if the areas of land to be lost form a functional part of the Humber Estuary SPA and Ramsar site (for development in Scunthorpe and Market Towns) and the Thorne and Hatfield Moors SPA (for development in at Sandtoft Business Park).

Allocations which may have adverse effects on the integrity of any international site will not be included in the Housing and Employment Land Allocations DPD unless suitable mitigation measures can be provided to ensure that there is no adverse effect on the integrity of the international sites. These mitigation measures must be agreed with Natural England.

The *Housing and Employment Land Allocations DPD* will include the following text for allocations in Scunthorpe, Market Towns and Sandtoft Business Park where no adverse effects on the integrity of international sites are identified (as a precautionary measure only):

*“Any proposed development likely to have a significant effect on a wildlife site of international importance will be subject to a Habitats Regulations Assessment by the Competent Authority. Where it cannot be demonstrated that a development proposal will not have an adverse effect on the integrity of a site of international importance to nature conservation, mitigation measures must be provided as part of the development proposals that adequately mitigates the effects.”*

And/or:

*“A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the international site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused”.*

Further assessments at the lower tier plan stage and, if necessary, the development control stage, will ensure that there will be no adverse effects on the integrity of international sites as the designs of the development will be sufficiently flexible in order to include the types of mitigation that may be required (i.e. to avoid adverse effects on the Humber Estuary SPA and Ramsar site and the Thorne and Hatfield Moors SPA).

## 6.4 Policy CS12 – Developments CS12a, CS12b, CS12c, CS12d and CS12e

### 6.4.1. Humber Estuary SPA and Ramsar Site

In the case of Policy CS12 there is such a large area of land which will be lost under proposed developments that project level mitigation is not considered sufficient to mitigate the loss of important high tide roost sites.

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<sup>76</sup> Stage 1 and Stage 2 of the HRA process has now been completed on the Housing and Employment Allocations DPD (produced by Atkins in November 2010). This assessment concluded no adverse effects on the integrity of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites and the findings were signed off by North Lincolnshire Council on the 13<sup>th</sup> November 2010.

It is widely recognised that a strategic form of mitigation for this level of development within the South Humber Bank Strategic Employment Site (SHBSES) is required. As such, a *South Humber Gateway Conservation Mitigation Strategy Delivery Plan* (now referred to as the Mitigation Strategy) has been written to describe how to deliver strategic mitigation<sup>77</sup> for the whole South Humber Bank (including the areas within North East Lincolnshire).

This has been developed through discussions with appropriate conservation bodies (including Natural England and the Royal Society for the Protection of Birds), developers and Councils (including North Lincolnshire Council and North East Lincolnshire Council)<sup>78</sup> to agree the approach to secure and deliver areas of land within and outside of the South Humber Bank Employment Zone which will adequately mitigate against the loss of habitats that provide roosting, loafing and foraging resources for qualifying bird species. It must be noted, however, that to date there are no pieces of land allocated for management as high tide roost sites.

Policy CS12 states that it will:

*“protect and enhance the existing biodiversity and landscape character of the Humber Estuary by harmonising the ecology, nature conservation and landscape with port related development activities. This can largely be achieved by the Delivery Plan for Ecology and Industrial Development [the Delivery Plan] with its aim of unlocking the economic development opportunity of the SHBSES whilst ensuring protection of the Humber Estuary SPA, SAC and Ramsar site and developing new green infrastructure. The delivery of the of this Ecology Plan will link directly to the Green Infrastructure Strategy for North Lincolnshire<sup>79</sup> and will be produced in partnership with Natural England, RSPB, Lincolnshire Trust for Nature Conservation, Environment Agency, Yorkshire Forward, North Lincolnshire and North East Lincolnshire Councils, landowners and industry”.*

Its supporting text also states that:

*“The SHBSES is also regionally significant in environmental terms and is home to sensitive estuary and wetland habitats and some important bird species. There is a designated Site of Special Scientific Interest in the centre of the area, together with three sites of importance for nature conservation and a local nature reserve. Directly to the north is a Ramsar/SPA site.*

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<sup>77</sup> South Humber Gateway Conservation Mitigation Strategy Delivery Plan. *Aligning industrial development and the EU Birds and Habitats Directives. 2008*

<sup>78</sup> Peter Barham, Environmental Consultant, Darren Clarke, Humber Industry Nature Conservation Association, Harriet Dennison, RSPB, Bernie Fleming, Natural England, Caroline Steel, Lincolnshire Wildlife Trust, Gordon Kell, South Humber Gateway, Kate Walker, North East Lincolnshire Council, Andrew Taylor, North Lincolnshire Council

<sup>79</sup> The Council has been working closely with Natural England and the Humber sub regional local authorities and other partners to identify, collate and map green infrastructure assets and areas within North Lincolnshire. A sub regional map has recently been produced by Natural England to show existing areas of green infrastructure. This will form the basis to support projects and policy at both strategic and local levels and, as well as being an evidence base for LDFs, this work should be used by local authorities, statutory agencies, voluntary sector organisations, the basis of which incorporates a green infrastructure strategy. Paragraphs 11.6 to 11.10 of the Core Strategy explain the current landscape, green space and waterscape assets in North Lincolnshire, including using Lincolnshire Lakes Western Scunthorpe urban extension and at the South Humber Gateway as examples where the green infrastructure strategy could be delivered in the future. The South Humber Gateway project area will provide a balance of a world class economy with a world class environment – this will include new areas for biodiversity and landscape enhancement inside and beyond the employment site to be managed by both landowners and charitable organisations such as Royal Society for the Protection of Birds and Lincolnshire Wildlife Trust.

*Essential development to the South Humber Bank can be achieved alongside the preservation of existing nature conservation area, wildlife habitats and species by ensure it has no adverse effect on the local environment. Establishing buffer areas around existing and proposed industry, requiring high quality landscaping to screen industrial development and the provision of new habitats and local green networks between and around industrial areas will help to minimise any potential negative effects...*

The supporting text also states that the delivery of the SHBSES will be achieved through the South Humber Gateway Delivery Group and its Ecology Sub Group (which includes both Natural England and the RSPB). The Core Strategy DPD therefore recognises and commits to working with the Ecology Sub-Group to deliver the Mitigation Strategy for the SHBSES.

It is considered by North Lincolnshire Council that there is an assumption against development within the SHBSES until the mitigation outlined in the Mitigation Strategy is secured. This will be stated within the policy relating to the allocation site in the SHBSES (SHBE-1) in the *Housing and Employment Land Allocations DPD*. The Ecology Sub Group is satisfied that the full implementation of the mitigation outlined in the Mitigation Strategy is sufficient to mitigate for the loss of habitats that provide roosting, loafing and foraging resources for qualifying bird species through the development of the South Humber Bank Employment Zone. This includes agreement with Natural England and RSPB.

Furthermore, in accordance with the Habitats Regulations, all land use plans that are not necessary for site management and/or its interest features must be subject to the HRA process. North Lincolnshire Council is committed to completing the necessary stages of the HRA process on the *Housing and Employment Land Allocations DPD* in which details about this site will be provided. The *Housing and Employment Land Allocations DPD* will contain important details about this site that are not currently available (i.e. exact site boundaries)<sup>80</sup>. This additional information will allow a thorough and accurate assessment of the effects of this development. The HRA will include a detailed assessment to determine if the development of the SHBSES will lead to physical loss, physical damage and/or non-physical disturbance to the Humber Estuary SAC, SPA and Ramsar site.

With respect to this Stage 2 assessment, the wording and policy around the allocation in the SHBSES will describe the Mitigation Strategy and its implications for development. As outlined above, there will be an assumption against development within SHBSES until this mitigation is secured. There will also be a commitment to carrying out project level HRAs for each planning application within SHBSES. The RSPB and NE have both signed the Memorandum of Understanding agreeing to work towards developing and delivering the Mitigation Strategy. The primary function of the Mitigation Strategy has been to ensure that actions taken at a strategic level will mean that development within the South Humber Gateway (of which the SHBSES forms a part) does not have an adverse effect on the integrity of the SPA and Ramsar site. Both organisations have signed up to the Mitigation Strategy which has been drafted and discussed at length at the last two South Humber Bank Ecology Group meetings. NE and RSPB have therefore agreed the approach and they have agreed to deliver some of the actions in the Mitigation Strategy, especially those set out in Sections 2.1 and 2.2. [The Mitigation Strategy provides evidence that if delivered appropriately](#), it is sufficient to mitigate for the loss of high tide roost sites through the development of the South Humber Bank Employment Zone. To that end the following text will be included in the Introduction of the *Housing and Employment Land Allocations DPD*:

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<sup>80</sup> Stage 1 and Stage 2 of the HRA process has now been completed on the Housing and Employment Allocations DPD (produced by Atkins in November 2010). This assessment concluded no adverse effects on the integrity of the Humber Estuary international sites and the Thorne and Hatfield Moors international sites and the findings were signed off by North Lincolnshire Council on 13<sup>th</sup> November 2010.

*“It will be important to respect the international, national and local nature conservation sites designated within and adjacent to the site. An agreed interpretation of the requirements of the European Habitat Regulations must be sought with all decision making authorities in relation to all development proposals. On a case by case basis each individual development will be assessed to see whether its own EIA and Appropriate Assessment need to be undertaken and that the requirements for mitigation are assessed against what is delivered through the strategy. The mitigation requirements from these assessments will be measured against what is delivered in the South Humber Bank Gateway Conservation Mitigation Strategy Delivery Plan (SHGCMSDP). A screening will be carried out by the appropriate authority.*

*In order to mitigate any adverse effects of development within the SHBSES allocation site on the Humber Estuary international sites, a strategic mitigation plan is in development. The council has formed a collaborative framework of partners to help deliver this mitigation. This includes a Board, Delivery Group, Ecology Group and Mitigation Group as stated in full in the implementation paragraphs of this policy. The latter two groups are in the process of producing the SHGCMSDP.*

*Partners signed up to this Mitigation Strategy include North Lincolnshire Council, North East Lincolnshire Council, Natural England, Humber Industry and Nature Conservation Association (HINCA), Yorkshire Forward (RDA), Environment Agency, Royal Society for the Protection of Birds (RSPB), Lincolnshire Wildlife Trust and various major landowners and private industry having a direct interest in the area.*

*Once this Plan has been agreed with accurate areas of strategic mitigation land identified, it will become directly linked to this policy and will assist individual planning proposals within the site in providing strategic guidance towards mandatory EIAs and HRAs. However, at this time no mitigation areas have been accurately identified in the SHGCMSDP and the process of negotiation with all signatories of the SHGCMSDP is continuing regarding the strategic mitigation requirements of the South Humber Gateway (SHG). It has been agreed that the strategic mitigation sites will be within and close to the SHG. A current proposal by Natural England and the Royal Society for the Protection of Birds is being given consideration by the SHGCMSDP relating to the need for four nature conservation stepping stone areas to be provided within the site, each being of an area up to 50 ha. These four areas include an area of land within the allocation site at the South Humber Bank in North East Lincolnshire and land within the SHBE1 allocation site in North Lincolnshire and as yet an unspecified amount of mitigation land outside of the site. The issue of the location, number and area of mitigation sites has not yet been agreed by all parties and it is currently considered work in progress. In the absence of agreed areas with defined boundaries, strategic mitigation will have to be negotiated within the planning application process, including pre-application discussions with the decision making authorities.”*



Furthermore the following text will be included in the policy for the SHBSES:

*Development of the site shall only take place if there has been appropriate consideration given to the international, national and local protected sites for nature conservation. This includes ensuring there will be no adverse effects on ecological integrity and complying with the European Habitat Regulations (Birds and Habitat Directives) to the satisfaction of all parties concerned in the decision making process.*

*A requirement to deliver ecological mitigation sites within and outside of the South Humber Employment Allocation. This shall be determined by the South Humber Gateway Conservation Mitigation Strategy Delivery Plan (SHGCMSP) and/or negotiated within the planning application process.*

*On a case by case basis each individual development will be assessed to see whether its own EIA and Appropriate Assessment need to be undertaken and that the requirements for mitigation are assessed against what is delivered through the strategy.*

These statements set out the Council's legal duty in relation to HRA. They also make the HRA process and requirements clear to any future developers.

#### **6.4.2. Humber Estuary SAC**

Section 3 of the Core Strategy DPD states that further consideration and assessment will need to be made for relevant proposals at the development control stage including development that may arise from Policy CS12. This will include applications for any pipeline routes (Development CS12c) as it is currently not known where pipelines need to be built or their nature (e.g. above or below ground, temporary or permanent, whether they will cause the loss of intertidal habitats) and any future planning applications for within the SHBSES (Development CS12a, CS12b and CS12d) as it is currently not known what types of development will come forward (e.g. their location, size, type and whether they will cause the loss of any SAC habitats).

This will require the preparation of a thorough ecological assessment of the likely effects upon the relevant international sites (as outlined in paragraph 3.21 for the Core Strategy DPD). The Core Strategy also states that any development that cannot demonstrate that it would not have an adverse effect on an international site will be refused.

The Core Strategy DPD commits to project level assessment of each of the developments arising from this policy. Should these future assessments determine that it is not possible to deliver these projects without causing likely significant effects (Stage 1) or adverse effects on the integrity (Stage 2) of international sites, this would not affect the deliverability of the Core Strategy DPD (as no specific projects or developments are outlined in the plan).

As outlined in Section 6.4.1 above, there will also be a commitment to carrying out project level HRAs for each planning application within SHBSES in the Housing and Employment Land Allocations DPD.

Furthermore, in order to protect the intertidal habitats which form part of the Humber Estuary SAC, it is considered by North Lincolnshire Council that there is a presumption against development on intertidal habitats within the SHBSES. The frontage of the SHBSES will be reserved for port related activities only and development will only be permitted where it can be demonstrated that the relevant Habitats Regulations tests can be met. For example, where adverse effects on integrity of the SAC (and its intertidal habitats) are identified and cannot be mitigated, development will only take place where there are no alternatives, and where there are imperative reasons of overriding public interest

and where permission has been granted by the Secretary of State (once compensatory measures are agreed).

#### 6.4.3. Conclusions

Taken together, the measures outlined in Sections 6.4.1 and 6.4.2 will ensure that there will be no adverse effects on the integrity of Humber Estuary SAC, SPA and Ramsar site and the Thorne and Hatfield Moors SPA.

## 6.5 Policy CS21 – Developments CS21d and CS21e

North Lincolnshire Council is committed to completing the necessary stages of the HRA process on the *Minerals and Waste DPD* when it is produced.

Policy CS21 seeks to safeguard the two sites that have been found to have an adverse effect on integrity of the international sites only (as will be outlined in the *Minerals and Waste DPD*). It does not allocate these sites for mineral extraction and does not guarantee that this will ever occur.

However, should these sites ever be worked for minerals in the future there is the potential for conflicts with the conservation objectives protecting the Humber Estuary SAC, SPA and Ramsar site. In order to avoid adverse effects on the Humber Estuary international sites, the following mitigation measures have been put in place.

The *Minerals and Waste DPD* will commit to an HRA being completed of any proposals for extraction within these two sites and will state that:

*“A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the Humber Estuary SAC, SPA and Ramsar site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused”.*

This approach to HRA will not affect the deliverability of the Core Strategy DPD as Policy CS21 seeks to safeguard these two sites only.

Furthermore, as a precaution, should proposals to develop these sites occur prior to the *Minerals and Waste DPD* being published, the Core Strategy DPD commits to HRA being carried out at the development control stage. This will ensure the necessary stages of the HRA process are completed for any development that may occur as a result of this policy.

## 6.6 Policy CS26 – CS26a, CS26c, CS26d, CS26e, CS26h and CS26k

The Council will not be responsible for carrying out these six infrastructure proposals but will seek to support the parties that put forward the planning applications, providing that they adhere to the policies within the Core Strategy DPD. The policy does not commit to these developments taking place.

Section 3 of the Core Strategy DPD states that further consideration and assessment will need to be made for relevant proposals at the development control stage including development that may arise from Policy CS26. This will require the preparation of a thorough ecological assessment of the likely



effects upon the relevant international sites (paragraph 3.21 for the Core Strategy DPD). It also states that any development that cannot demonstrate that it would not have an adverse effect on an international site will be refused.

Mitigation that could be considered by developers to avoid likely significant effects (Stage 1) or adverse effects on the integrity (Stage 2) include: aspects of the construction process deemed to be most disturbing to wintering birds should be timed to be carried out outside of the October to February period (when wintering golden plover and lapwing are present), adhering to guidance on noise and vibration levels and the use of screening for construction and operational phases.

The Core Strategy DPD commits to project level assessment of each of the developments arising from this policy. Should these future assessments determine that it is not possible to deliver these projects without causing likely significant effects (Stage 1) or adverse effects on the integrity (Stage 2) of international sites, this would not affect the deliverability of the Core Strategy DPD (as the projects are aspirations only).

Taken together, these measures will ensure that there will be no adverse effects on the integrity of Humber Estuary SPA and Ramsar site and the Thorne and Hatfield Moors SPA).

## 5.12 Summary of Mitigation

Table 6.1 below provides a summary of the protection measures in place in the Core Strategy and the mitigation measures being put forward to avoid adverse effects on integrity of the international sites.

**Table 6.1: Summary of Mitigation and Residual Adverse Effects on Integrity of International Sites**

| Policy Number | Development Reference       | Mitigation Required? | Details<br>(Summary of Protection Measures and Mitigation)  | Adverse Effect on Integrity with Mitigation? |
|---------------|-----------------------------|----------------------|---|--|
| CS4           | CS4a: Lincolnshire Lakes    | Yes                  | Completing the necessary HRA stages on the <i>Lincolnshire Lakes AAP</i> .<br>See Section 6.1.  | No   |
| CS8           | CS8a: Housing in Scunthorpe | Yes                  | Completing the necessary HRA stages on the <i>Housing and Employment Land Allocations DPD</i> . Housing allocations with adverse effects on integrity (that cannot be mitigated) will be removed from the Plan.<br><br>As a precaution, additional text for allocations in Scunthorpe, Crowle, Barton upon Humber | No   |

| Policy Number | Development Reference               | Mitigation Required? | Details<br>(Summary of Protection Measures and Mitigation)   | Adverse Effect on Integrity with Mitigation? |
|---------------|-------------------------------------|----------------------|--|--|
|               | CS8b: Housing in Barton upon Humber | Yes                  | and Winterton will be included, which states that:<br><br><i>“Any proposed development likely to have a significant effect on a wildlife site of international importance will be subject to a Habitats Regulations Assessment by the Competent Authority. Where it cannot be demonstrated that a development proposal will not have an adverse effect on the integrity of a site of international importance to nature conservation, mitigation measures must be provided as part of the development proposals that adequately mitigates the effects.”</i><br><br>And/or:<br><br><i>“A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the international site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused”.</i><br><br>See Section 6.2. | No   |
|               | CS8c: Housing in Crowle             | Yes                  |  | No   |
|               | CS8d: Housing in Winterton          | Yes                  |  | No   |
| CS11          | CS11a: Employment in Scunthorpe     | Yes                  | Completing the necessary HRA stages on the <i>Housing and Employment Land Allocations DPD</i> . Employment allocations with adverse effects on integrity (that cannot be mitigated) will be removed from the Plan.<br><br>As a precaution, additional text for allocations in Scunthorpe, Crowle, Barton upon Humber and Winterton will be included, which states that:<br><br><i>“Any proposed development likely to have a significant effect on a wildlife site of</i>  | No   |

| Policy Number | Development Reference                          | Mitigation Required? | Details<br>(Summary of Protection Measures and Mitigation)   | Adverse Effect on Integrity with Mitigation? |
|---------------|--|----------------------|--|--|
|               | CS11b:<br>Employment in Market Towns           | Yes                  | <i>international importance will be subject to a Habitats Regulations Assessment by the Competent Authority. Where it cannot be demonstrated that a development proposal will not have an adverse effect on the integrity of a site of international importance to nature conservation, mitigation measures must be provided as part of the development proposals that adequately mitigates the effects."</i><br><br>And/or:<br><br><i>"A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the international site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused".</i><br><br>See Section 6.3. | No   |
|               | CS11c:<br>Employment in Sandtoft Business Park | Yes                  | <i>"A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the international site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused".</i><br><br>See Section 6.3.   | No   |
| CS12          | CS12a: 900 ha of Employment Land*              | Yes                  | <b>Humber Estuary SPA and Ramsar Site</b><br><br>Commitment to the delivery of the <i>South Humber Gateway Conservation Mitigation Strategy Delivery Plan</i> .  | No   |
|               | CS12b: Safeguarding deep water channel         | Yes                  | Completing the necessary HRA stages on the <i>and Employment Land Allocations DPD</i> .<br><br>Detailed HRA text to be added to the <i>Housing and Employment Allocations DPD</i> .  | No   |
|               | CS12c: New pipe routes                         | Yes                  | Assumption against development within the SHBSES until the mitigation outlined in the Mitigation Strategy is secured. This will be stated within the policy relating to the allocation site in the SHBSES (SHBE-1) in the <i>Housing and Employment Land Allocations DPD</i> .   | No   |
|               | CS12d: Opportunity for new port                | Yes                  | Assumption against development within the SHBSES until the mitigation outlined in the Mitigation Strategy is secured. This will be stated within the policy relating to the allocation site in the SHBSES (SHBE-1) in the <i>Housing and Employment Land Allocations DPD</i> .   | No   |
|               | CS12e: Improved access to the ports            | Yes                  | <b>Humber Estuary SAC</b><br><br>Completing the necessary HRA stages on the <i>Housing and Employment Land Allocations DPD</i> .<br><br>Commitment in Core Strategy to completing project level HRA where necessary (e.g. for  | No   |

| Policy Number | Development Reference                                  | Mitigation Required? | Details<br>(Summary of Protection Measures and Mitigation)   | Adverse Effect on Integrity with Mitigation? |
|---------------|--|----------------------|--|--|
|               |  |                      | Development CS12c).<br>Presumption against development on intertidal habitats within the SHBSES. The frontage of the SHBSES will be reserved for port related activities only and development will only be permitted where it can be demonstrated that the relevant Habitats Regulations tests can be met.<br>See Section 6.4.   |  |
| CS21          | CS21d: Barrow Tileries, Barrow Haven                   | Yes                  | Completing the necessary HRA stages on the <i>Minerals and Waste DPD</i> .<br>The Minerals and Waste DPD will commit to an HRA being completed of any proposals for extraction within these two sites and will state that:<br>“A HRA of the project will be required at the development control stage when detailed designs are available, to further examine the potential for the proposed development to result in an adverse effect on the integrity of the Humber Estuary SAC, SPA and Ramsar site. Should any mitigation be required, it should be integrated in to the detailed designs and the delivery must be agreed prior to granting planning permission. If, with mitigation, it cannot be proven that there will be no effects on integrity then planning permission will be refused”.<br>See Section 6.5. | No   |
|               | CS21e: Yarborough Gullet, Scunthorpe                   | Yes                  |  | No   |
| CS26          | CS26a: A160 Improvements                               | Yes                  | The Core Strategy DPD commits to project level HRA of each of the developments arising from this policy. It also states that any development that cannot demonstrate that it would not have an adverse effect on an international site will be refused.<br>Should these future assessments determine that it is not possible to deliver these projects without causing likely significant effects (Stage 1) or adverse effects on the integrity (Stage 2) of international sites, this would not affect the deliverability of the Core Strategy DPD (as the projects are aspirations only).<br>See Section 6.6.  | No   |
|               | CS26c: Access Improvements To Scunthorpe from the West | Yes                  |  | No   |
|               | CS26d: Improvements around Sandtoft Airfield           | Yes                  |  | No   |
|               | CS26e: Potential realignment of                        | Yes                  |  | No   |

| Policy Number | Development Reference                   | Mitigation Required? | Details<br>(Summary of Protection Measures and Mitigation) | Adverse Effect on Integrity with Mitigation? |
|---------------|---|----------------------|--|--|
|               | the A1077                               |                      |  |  |
|               | CS26h:<br>Creation of Killingholme Loop | Yes                  |  | No   |
|               | CS26k:<br>Scunthorpe Urban Renaissance  | Yes                  |  | No   |

## 7. Conclusions

This Habitats Regulations Assessment (HRA) Stage 2: Appropriate Assessment has been carried out by Atkins Limited (Atkins) on behalf of North Lincolnshire Council for the *North Lincolnshire Core Strategy Development Plan Document (DPD) - Submission Draft (May 2010)*.

Atkins completed a Stage 1 (Screening) assessment of the Core Strategy DPD in February 2010<sup>81</sup>. This report was revised following comments from Natural England and the Royal Society for the Protection of Birds (RSPB) in August 2010<sup>82</sup>.

The revised Stage 1 Screening assessment identified a total of 19 of the 27 policies in the Core Strategy DPD that will not lead to likely significant effects on the Humber Estuary SAC, SPA or Ramsar site or the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA.

However, it was determined that a total of eight of the policies in the Core Strategy DPD may lead to likely significant effects on the Humber Estuary SAC/SPA/Ramsar site and the Thorne Moor SAC, Hatfield Moor SAC and Thorne and Hatfield Moors SPA. These are:

- CS1 – Spatial Strategy for North Lincolnshire;
- CS4 – Creating a Renaissance in North Lincolnshire;
- CS7 – Overall Housing Provision;
- CS8 – Spatial Distribution of Housing;
- CS11 – Provision and Distribution of Employment Land;
- CS12 – South Humber Bank Strategic Employment Site;
- CS21 – Minerals; and,
- CS26 – Strategic Transport Infrastructure Proposals.

The Stage 2 process used appropriate guidance and evidence (e.g. research papers and survey data) to assess whether the each development aspect outlined in the policies would have an adverse effect on the integrity of the six international sites.

A total of 29 development aspects were identified. Eight of these development aspects were determined not to lead to any adverse effects on the international sites. However, the remaining 21 development aspects of the eight policies were found to lead to adverse effects on the integrity of the international sites, without mitigation. Adverse effects arose from physical loss (e.g. the possible loss of intertidal habitats that birds from the Humber Estuary SPA and Ramsar may be using at for foraging, loafing and roosting), physical damage (e.g. from abrasion caused by increased recreation levels) and non physical disturbance (e.g. from noise, light and vibration during construction and operation of developments).

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<sup>81</sup> *North Lincolnshire Council Local Development Framework - Core Strategy Updated Appropriate Assessment Review* (produced by Atkins in February 2010)

<sup>82</sup> *North Lincolnshire Council: Core Strategy Submission Draft (May 2010) Habitats Regulations Assessment: Stage 1 – Screening (Amended)* (produced by Atkins in August 2010)

The Council is committed to completing the HRA process of the following lower tier plans (as is their legal duty): *Lincolnshire Lakes Area Action Plan*, the *Housing and Employment Land Allocations DPD* and the *Minerals and Waste DPD*.

Mitigation measures for the 21 development aspects of the eight policies have been provided in this report and include the following:

- The commitment to HRA at the development control stage for the developments arising from the *Housing and Employment Land Allocations DPD* and the *Minerals and Waste DPD* and the commitment to refusing planning permission to any projects where it cannot be proven to have no adverse effects on integrity of international sites;
- Completing project specific HRAs of any infrastructure projects that arise from Policy CS26 (as in accordance with text in Section 3 of the Core Strategy DPD).
- The commitment within the Core Strategy DPD to the *South Humber Gateway Conservation Mitigation Strategy Delivery Plan* for the South Humber Bank Strategic Employment Site. The Ecology Sub Group is satisfied that the full implementation of the mitigation outlined in the Mitigation Strategy is sufficient to mitigate for the loss of high tide roost sites through the development of the South Humber Bank Employment Zone. This includes agreement with Natural England and RSPB.

It is considered that, taking account of the effects of the implementation of appropriate mitigation measures, the Core Strategy DPD (alone or in combination with other projects and plans) will not lead to adverse effects on integrity of the Humber Estuary SAC, SPA or Ramsar site or the Thorne Moor SAC, the Hatfield Moor SAC or the Thorne and Hatfield Moors SPA.