

# **URS**

---

*Lincolnshire  
Lakes Area  
Action Plan -  
Submission  
(Publication  
Draft)*

Habitats Regulations  
Assessment

October 2014

URS Job: 46405606

Prepared for:  
North Lincolnshire Council

<b>REVISION SCHEDULE</b>					
<b>Rev</b>	<b>Date</b>	<b>Details</b>	<b>Prepared by</b>	<b>Reviewed by</b>	<b>Approved by</b>
1	December 2013	Draft	Graeme Down Ecologist	Dr James Riley Principal Ecologist	Dr James Riley Principal Ecologist
2	August 2014	Report updated with AAP Policy HRA	Graeme Down Ecologist	Dr James Riley Principal Ecologist	Dr James Riley Principal Ecologist
3	October 2014	Amended in line with client review	Isla Hoffman Heap Ecologist	Dr James Riley Principal Ecologist	Dr James Riley Principal Ecologist

URS  
Scott House  
Alençon Link  
Basingstoke  
Hampshire  
RG21 7PP

**Limitations**

URS Infrastructure & Environment UK Limited ("URS") has prepared this Report for the sole use of North Lincolnshire Council ("Client") in accordance with the Agreement under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by URS. This Report is confidential and may not be disclosed by the Client nor relied upon by any other party without the prior and express written agreement of URS.

The conclusions and recommendations contained in this Report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested and that such information is accurate. Information obtained by URS has not been independently verified by URS, unless otherwise stated in the Report.

The methodology adopted and the sources of information used by URS in providing its services are outlined in this Report. The work described in this Report was undertaken during December 2013 and updated in August to October 2014, and is based on the conditions encountered and the information available during the said period of time. The scope of this Report and the services are accordingly factually limited by these circumstances.

Where assessments of works or costs identified in this Report are made, such assessments are based upon the information available at the time and where appropriate are subject to further investigations or information which may become available.

URS disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to URS' attention after the date of the Report.

Certain statements made in the Report that are not historical facts may constitute estimates, projections or other forward-looking statements and even though they are based on reasonable assumptions as of the date of the Report, such forward-looking statements by their nature involve risks and uncertainties that could cause actual results to differ materially from the results predicted. URS specifically does not guarantee or warrant any estimate or projections contained in this Report.

**Copyright**

© This Report is the copyright of URS Infrastructure & Environment UK Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

**TABLE OF CONTENTS**

<b>1</b>	<b>INTRODUCTION .....</b>	<b>5</b>
1.1	Scope of the project .....	5
1.2	Legislation .....	5
1.3	Lincolnshire Lakes AAP.....	6
1.4	This report .....	6
<b>2</b>	<b>METHODOLOGY .....</b>	<b>7</b>
2.1	Process .....	7
2.2	Likely Significant Effects (LSE).....	7
2.3	Confirming other plans and projects that may act 'in combination'.....	8
<b>3</b>	<b>PATHWAYS OF IMPACT.....</b>	<b>10</b>
3.1	Introduction .....	10
3.2	Urbanisation .....	10
3.3	Recreational pressure .....	10
3.4	Traffic exhaust emissions.....	12
3.5	Water abstraction.....	13
3.6	Water quality .....	14
3.7	Loss of Supporting Habitat.....	15
<b>4</b>	<b>HUMBER ESTUARY SAC, SPA AND RAMSAR SITES 16</b>	
4.1	Introduction .....	16
4.2	Features of European/international interest .....	17
4.3	Conservation objectives .....	20
4.4	Potential effects of the Final Option AAP and Policies .....	20
4.5	Other plans and projects .....	25
4.6	Previous consultations .....	26
<b>5</b>	<b>OVERALL CONCLUSION .....</b>	<b>27</b>
<b>6</b>	<b>APPENDIX A – LINCOLNSHIRE LAKES AAP POLICIES AND HRA SCREENING OUTCOME .....</b>	<b>28</b>

## 1 INTRODUCTION

### 1.1 Scope of the project

URS was appointed by North Lincolnshire Council to assist the Council in undertaking a Habitats Regulations Assessment (HRA) of the Lincolnshire Lakes Area Action Plan (AAP).

The objective of the assessment was to identify any aspects of the AAP that had the potential to cause a likely significant effect on Natura 2000 or European sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites), either in isolation or in combination with other plans and projects, and to devise appropriate mitigation strategies where such effects were identified. The first stage in this HRA process was to undertake a Likely Significant Effects (HRA screening) assessment of the four emerging spatial options that were being proposed for consultation. Upon selection of the Final Option, the Council have produced a set of underpinning policies and these also require HRA screening.

The analysis of the Final Option and associated Policies is the purpose of this current report.

### 1.2 Legislation

The need for HRA/Appropriate Assessment is set out within Article 6 of the EC Habitats Directive 1992, and interpreted into British law by the Conservation of Habitats & Species Regulations 2010 (as amended). The ultimate aim of the Habitats Directive is to "*maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest*" (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites themselves, although the sites have a significant role in delivering favourable conservation status. European sites (also called Natura 2000 sites) can be defined as actual or proposed/candidate Special Areas of Conservation (SAC) or Special Protection Areas (SPA). It is also Government policy for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to Natura 2000 sites.

The Habitats Directive applies the precautionary principle to protected areas. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. This is in contrast to the SEA Directive which does not prescribe how plan or programme proponents should respond to the findings of an environmental assessment; merely that the assessment findings (as documented in the 'environmental report') should be 'taken into account' during preparation of the plan or programme. In the case of the Habitats Directive, plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

All the European sites mentioned in this document are shown in Figure 1. In order to ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question:

**Box 1. The legislative basis for HRA/Appropriate Assessment****Habitats Directive 1992**

Article 6 (3) states that:

*"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."*

**Conservation of Habitats & Species Regulations 2010 (as amended)**

The Regulations state that:

*"A competent authority, before deciding to ... give any consent for a plan or project which is likely to have a significant effect on a European site ... shall make an appropriate assessment of the implications for the site in view of that sites conservation objectives... The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site".*

**1.3****Lincolnshire Lakes AAP**

The AAP will seek to develop a significant area of land in proximity to the existing settlement of Scunthorpe. In considering the physical scope of the assessment we were guided primarily by the identified impact pathways rather than by arbitrary 'zones'. Briefly defined, pathways are routes by which a change in activity within the AAP area can lead to an effect upon a European site. CLG guidance states that the AA should be '*proportionate to the geographical scope of the [plan policy]*' and that '*an AA need not be done in any more detail, or using more resources, than is useful for its purpose*' (CLG, 2006, p.6).

The following European sites have been included in the scope of this assessment, based on the presence of potential impact pathways:

- The Humber Estuary SAC, SPA and Ramsar sites.

**1.4****This report**

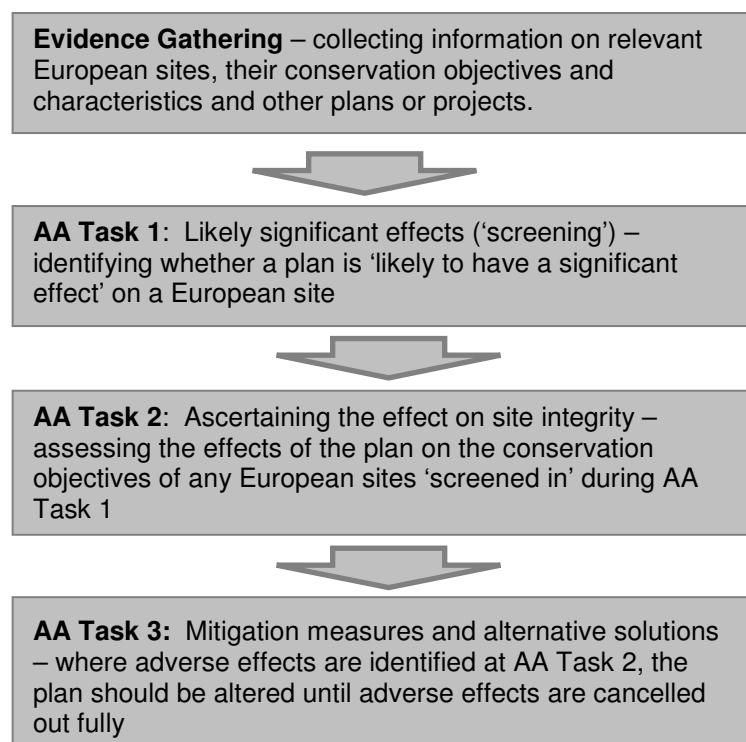
Chapter 2 of this report explains the process by which the HRA has been carried out. Chapter 3 explores the relevant pathways of impact. Chapter 4 begins with a consideration of the interest features and ecological condition of the Humber sites and environmental processes essential to maintain site integrity. An assessment of the AAP and associated Policies in respect of each European site is then carried out. The key findings are summarised in Chapter 5: Conclusions. The Policies themselves and HRA screening outcome for each are listed in Appendix A.

## 2 METHODOLOGY

### 2.1 Process

The HRA is being carried out in the absence of formal Government guidance. Communities and Local Government released a consultation paper on Appropriate Assessment of Plans in 2006<sup>1</sup>. As yet, no further formal guidance has emerged.

Figure 4 below outlines the stages of HRA according to current draft CLG guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no significant adverse effects remain.



**Figure 5 – Four-Stage Approach to Habitat Regulations Assessment** (Source: CLG, 2006)

### 2.2 Likely Significant Effects (LSE)

The first stage of any Habitat Regulations Assessment (AA Task 1) is a Likely Significant Effect (LSE) test - essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

*"Is the Plan, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon the interest features of any European sites?"*

<sup>1</sup> CLG (2006) Planning for the Protection of European Sites, Consultation Paper

The vulnerability of European sites to development-related impacts can be determined from their conservation objectives, Natural England Regulation 33 reports (for European Marine Sites such as the Humber Estuary) and other sources of data concerning the European sites such as the recent visitor surveys of the Humber Estuary.

## 2.3 Confirming other plans and projects that may act ‘in combination’

For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects relate to the additional housing, transportation and commercial/industrial allocations proposed within North Lincolnshire and for neighbouring authorities over the lifetime of the AAP. There are other plans and projects that are often relevant to the ‘in combination’ assessment, and Table 1 summarises documents that we have reviewed to inform our assessment:

**Table 1. Documents reviewed in order to inform this assessment**

Document		Relevant contents
Environment Agency (2013)	The Lower Trent and Erewash Catchment Abstraction Management Plan	Sets out the Environment Agency’s position regarding future abstraction within the Lower Trent and Erewash Catchment
Anglian Water (2010)	Water Resource Management Plan	Sets out the proposed approach to providing water resources in the future
Environment Agency (various)	Stage 3 and 4 Appropriate Assessments: Review of Consents	Understanding of existing conditions at European sites
North Lincolnshire Council (2011)	The North Lincolnshire Local Transport Plan, 2011 – 2026.	Transport schemes.
Pell Frischmann (2010)	Lincolnshire Lakes Transport Strategy	Transport opportunities and constraints regarding the AAP
British Wind Energy Association (various)	Operational and in planning on-shore wind farms	Understanding of possible impacts on bird species
Environment Agency (2010)	River Trent Catchment Flood Management Plan	Understanding of background to water quality issues
Environment Agency (2008)	Adopted Humber Flood Risk Management Strategy	Understanding of background to water quality issues
Footprint Ecology (2012), on behalf of the Humber Management Scheme	Visitor surveys of the Humber Estuary	Understanding the visitor catchment of the Humber Estuary and the main sources of visitors
Halcrow (2010) North Lincolnshire Water Cycle Strategy	North Lincolnshire Water Cycle Strategy	Understanding of local water resources and quality issues
Lincolnshire County Council (1991 and 2006)	Minerals Local Plan (1991) Waste Local Plan (2006)	Background on potential pathways of impact on the Humber European sites
Halcrow (2010)	North Lincolnshire Infrastructure Delivery Plan	Understanding of local infrastructure constraints and opportunities

Document	Relevant contents
Core Strategies and Local Plans for North Lincolnshire and neighbouring local authorities (various)	Spatial development policies for North Lincolnshire, North East Lincolnshire, Kingston-upon-Hull, East Riding of Yorkshire, West Lindsey, Doncaster, Bassetlaw

In preparing this HRA we have utilised data held on the following sources in order to inform on the current ecological status of relevant European sites:

- The UK Air Pollution Information System ([www.apis.ac.uk](http://www.apis.ac.uk)); and
- Nature on the Map and its links to SSSI citations and the JNCC website ([www.natureonthemap.org.uk](http://www.natureonthemap.org.uk))

## 3 PATHWAYS OF IMPACT

### 3.1 Introduction

In carrying out an HRA it is important to determine the various ways in which land use plans can impact on European sites by following the pathways along which development can be connected with European sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with a development can lead to an effect upon a European site. The following outlines the potential impact pathways that we initially considered relating to the Lincolnshire Lakes development.

### 3.2 Urbanisation

This impact is closely related to recreational pressure, in that they both result from increased populations within close proximity to sensitive sites. Urbanisation is considered separately as the detail of the impacts is distinct from the trampling, disturbance and dog-fouling that results specifically from recreational activity. The list of urbanisation impacts can be extensive, but core impacts can be singled out:

- Increased fly-tipping - Rubbish tipping is unsightly but the principle adverse ecological effect of tipping is the introduction of invasive alien species with garden waste. Garden waste results in the introduction of invasive aliens precisely because it is the 'troublesome and over-exuberant' garden plants that are typically thrown out<sup>2</sup>. Alien species may also be introduced deliberately or may be bird-sown from local gardens.
- Cat predation - A survey performed in 1997 indicated that nine million British cats brought home 92 million prey items over a five-month period<sup>3</sup>. A large proportion of domestic cats are found in urban situations, and increasing urbanisation is likely to lead to increased cat predation.

Urbanisation effects (as distinct from recreational pressure) generally relate to the delivery of large amounts of development within very close proximity to European sites (for example, with the Thames Basin Heaths in south-east England, a site known to be very vulnerable to urbanisation because of its already fragmented and heavily urbanised nature, a zone of 400m was identified within which urbanisation effects would occur).

### 3.3 Recreational pressure

Recreational use of a site has the potential to:

- Cause disturbance to sensitive species, particularly ground-nesting birds such as woodlark and nightjar, and wintering wildfowl;
- Prevent appropriate management or exacerbate existing management difficulties;
- Cause damage through erosion; and
- Cause eutrophication as a result of dog fouling.

Different types of European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex.

<sup>2</sup> Gilbert, O. & Bevan, D. 1997. The effect of urbanisation on ancient woodlands. *British Wildlife* 8: 213-218.

<sup>3</sup> Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174-188

Disturbance can have an adverse effect in various ways, with increased nest predation by natural predators as a result of adults being flushed from the nest and deterred from returning to it by the presence of people and dogs likely to be a particular problem. A literature review on the effects of human disturbance on bird breeding found that 36 out of 40 studies reported reduced breeding success as a consequence of disturbance<sup>4</sup>. The main reasons given for the reduction in breeding success were nest abandonment and increased predation of eggs or young. Over years, studies of other species have shown that birds nest at lower densities in disturbed areas, particularly when there is weekday as well as weekend pressure<sup>5</sup>.

Winter recreational activity can cause important disturbance, especially as birds are particularly vulnerable at this time of year due to food shortages, such that disturbance which results in abandonment of suitable feeding areas through disturbance can have severe consequences. Several empirical studies have, through correlative analysis, demonstrated that out-of-season (October-March) recreational activity can result in quantifiable disturbance:

- Tuite et al<sup>6</sup> found that during periods of high recreational activity, bird numbers at Llangorse Lake decreased by 30% as the morning progressed, matching the increase in recreational activity towards midday. During periods of low recreational activity, however, no change in numbers was observed as the morning progressed. In addition, all species were found to spend less time in their 'preferred zones' (the areas of the lake used most in the absence of recreational activity) as recreational intensity increased.
- Underhill et al<sup>7</sup> counted waterfowl and all disturbance events on 54 water bodies within the South West London Water Bodies Special Protection Area and clearly correlated disturbance with a decrease in bird numbers at weekends in smaller sites and with the movement of birds within larger sites from disturbed to less disturbed areas.
- Evans & Warrington<sup>8</sup> found that on Sundays total water bird numbers (including shoveler and gadwall) were 19% higher on Stocker's Lake LNR in Hertfordshire, and attributed this to observed greater recreational activity on surrounding water bodies at weekends relative to week days. However, in this study, recreational activity was not quantified in detail, nor was individual recreational activities evaluated separately.
- Tuite et al<sup>9</sup> used a large (379 site), long-term (10-year) dataset (September – March species counts) to correlate seasonal changes in wildfowl abundance with the presence of various recreational activities. They found that shoveler was one of the most sensitive species to disturbance. The greatest impact on winter wildfowl numbers was associated with sailing/windsurfing and rowing.

More recent research has established that human activity including recreational activity can be linked to disturbance of wintering waterfowl populations<sup>10 11</sup>.

<sup>4</sup> Hockin, D., M. Oundsted, M. Gorman, D. Hill, V. Keller and M.A. Barker (1992) – Examination of the effects of disturbance on birds with reference to its importance in ecological assessments. *Journal of Environmental Management*, **36**, 253-286.

<sup>5</sup> Van der Zande, A.N., J.C. Berkhuizen, H.C. van Letestijn, W.J. ter Keurs and A.J. Poppelaars (1984) – Impact of outdoor recreation on the density of a number of breeding bird species in woods adjacent to urban residential areas. *Biological Conservation*, **30**, 1-39.

<sup>6</sup> Tuite, C. H., Owen, M. & Paynter, D. 1983. Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. *Wildfowl* 34: 48-63

<sup>7</sup> Underhill, M.C. et al. 1993. *Use of Waterbodies in South West London by Waterfowl. An Investigation of the Factors Affecting Distribution, Abundance and Community Structure*. Report to Thames Water Utilities Ltd. and English Nature. Wetlands Advisory Service, Slimbridge

<sup>8</sup> Evans, D.M. & Warrington, S. 1997. The effects of recreational disturbance on wintering waterbirds on a mature gravel pitlake near London. *International Journal of Environmental Studies* 53: 167-182

<sup>9</sup> Tuite, C.H., Hanson, P.R. & Owen, M. 1984. Some ecological factors affecting winter wildfowl distribution on inland waters in England and Wales and the influence of water-based recreation. *Journal of Applied Ecology* 21: 41-62

<sup>10</sup> Footprint Ecology. 2010. Recreational Disturbance to Birds on the Humber Estuary

During 2011/2012 Footprint Ecology was commissioned by the Humber Estuary Management Scheme to undertake a visitor survey of the publically accessible parts of the Humber Estuary SAC/SPA/Ramsar site in order to determine the visitor catchment of the site, the main sources of visitors, the locations within the SAC/SPA/Ramsar site where most recreational activity takes place and the types of activity undertaken. The results of that survey have therefore been used in this assessment.

### 3.4

#### Traffic exhaust emissions

The main pollutants of concern for European sites are oxides of nitrogen ( $\text{NO}_x$ ), ammonia ( $\text{NH}_3$ ) and sulphur dioxide ( $\text{SO}_2$ ).  $\text{NO}_x$  can have a directly toxic effect upon vegetation. In addition, greater  $\text{NO}_x$  or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.

Sulphur dioxide emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions. As such, it is unlikely that material increases in  $\text{SO}_2$  or  $\text{NH}_3$  emissions will be associated with Local Development Frameworks or Local Plans.  $\text{NO}_x$  emissions, however, are dominated by the output of vehicle exhausts (more than half of all emissions). Within a 'typical' housing development, by far the largest contribution to  $\text{NO}_x$  (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison<sup>12</sup>. Emissions of  $\text{NO}_x$  could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the LDF/ Local Plan.

According to the World Health Organisation, the critical  $\text{NO}_x$  concentration (critical threshold) for the protection of vegetation is  $30 \mu\text{g m}^{-3}$ ; the threshold for sulphur dioxide is  $20 \mu\text{g m}^{-3}$ . In addition, ecological studies have determined 'critical loads'<sup>13</sup> of atmospheric nitrogen deposition (that is,  $\text{NO}_x$  combined with ammonia  $\text{NH}_3$ ) for key habitats within the European sites considered within this assessment (Table 2). Note that the locations closest to Lincolnshire Lakes have been used in this analysis. It can be seen that the Humber Estuary SAC/SPA/Ramsar site, within the vicinity of Lincolnshire Lakes, is not currently subject to  $\text{NO}_x$  concentration or levels of nitrogen deposition above the critical level or critical load.

<sup>11</sup> Footprint Ecology, Jonathan Cox Associates & Bournemouth University. 2010. Solent disturbance and mitigation project – various reports.

<sup>12</sup> Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. <http://www.airquality.co.uk/archive/index.php>

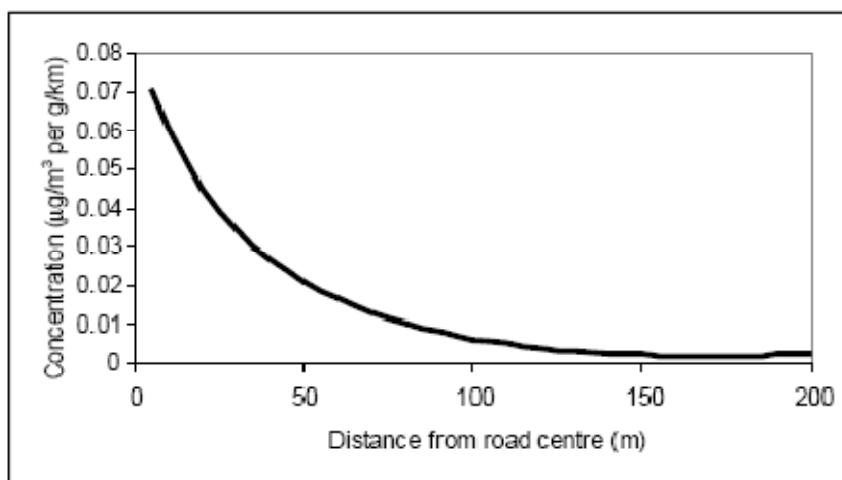
<sup>13</sup> The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur

**Table 2. Critical nitrogen loads, actual rates of nitrogen deposition and NO<sub>x</sub> concentrations<sup>14</sup> for the European sites considered within this assessment (APIS data correct as of 30/09/14). Figures in bold indicate exceeded.**

Site	Grid reference <sup>15</sup>	Key habitats <sup>16</sup>	Minimum <sup>17</sup> critical loads (Kg N/ha/yr)	Nitrogen deposition (Kg N/ha/yr) <sup>18</sup>	NOx concentration ( $\mu\text{gm}^{-3}$ )
Humber Estuary SAC/ SPA/ Ramsar site	SE841106	Coastal saltmarsh	20	19.2	13.2

According to the Department of Transport's Design Manual for Roads and Bridges, "Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant"<sup>19</sup>.

**Figure 6. Generalised drawing showing typical traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)**



This is therefore the distance that has been used throughout this HRA in order to determine whether European sites are likely to be significantly affected by development under the AAP.

### 3.5 Water abstraction

North Lincolnshire is within an area of only moderate water stress (see Figure 7).

<sup>14</sup> As NO<sub>2</sub>

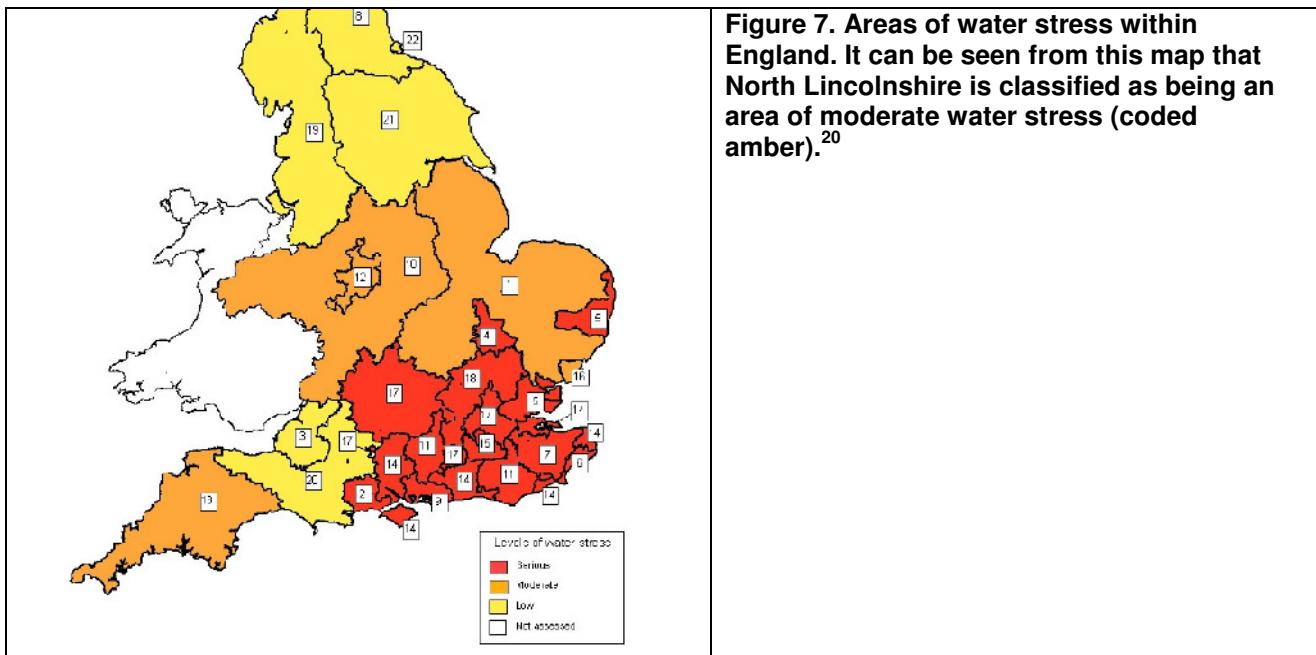
<sup>15</sup> Grid references relate to the closest points from the AAP at which major roads run within 200m i.e. the A18 at King George V Bridge

<sup>16</sup> There is no Critical Load available for littoral sediment, which is actually the habitat closest to Lincolnshire Lakes

<sup>17</sup> APIS provides a critical load range – on a precautionary basis, this assessment uses the lowest figure in that range

<sup>18</sup> Derived from the Site Relevant Critical Load function on APIS

<sup>19</sup> [www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf](http://www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf)



According to the Lower Trent and Erewash Catchment Abstraction Management Strategy for the tidal River Trent there is water available for licensing. There is a further 29Ml/d available for constrained abstraction subject to HOF and HOL condition dependent on which section of the tidal river the proposed abstraction is. Further to the 29Ml/d, there is 34Ml/d with an additional restriction related to an existing abstraction.

The Water Company (Anglian Water) has produced a Water Resource Management Plan (WRMP), published in 2014, which has been approved by the Regulator and Environment Agency, demonstrating how they will meet water requirements for the period until 2040. Scunthorpe lies within the West Lincolnshire Water Resource Zone (WRZ). This entire WRZ is forecast to be in significant water surplus (based on existing consented abstractions) by 2040 without any need for new water resources. Therefore, no new potable water supplies should be required. This is reflected in the fact that the North Lincolnshire Infrastructure Delivery Plan stated that within the principal growth areas (Scunthorpe, the six Market Towns and strategic employment areas), it was considered that there are sufficient water resources available for domestic supply purposes. Moreover, the North Lincolnshire Water Cycle Strategy<sup>21</sup> identified no major constraints to new development in terms of water resources. This pathway is not therefore considered any further in this document.

### 3.6

#### Water quality

Development within the AAP over the plan period will increase wastewater production. Wastewater would be treated by Severn Trent Water. Yaddlethorpe WwTW is identified in the North Lincolnshire Water Cycle Study (2010) as being the most likely existing WwTW to take wastewater from the Lincolnshire Lakes area for treatment. The Water Cycle Study identifies that for this WwTW that '*the additional flows, which would be generated by the proposed development in Scunthorpe and the Western Urban Extension [i.e. Lincolnshire Lakes], are expected to exceed the consented DWF and would require revision of the consent. STW do*

<sup>20</sup> Figure adapted from Environment Agency. 2007. Identifying Areas of Water Stress. <http://publications.environment-agency.gov.uk/pdf/GEHO0107BLUT-e-e.pdf>

<sup>21</sup> North Lincolnshire Outline Water Cycle Strategy (October 2010). Halcrow Group Ltd.

*not envisage any issues in obtaining a revised consent and have not identified any physical constraints to the provision of additional treatment capacity. However, due to the significant levels of development being considered in this catchment, early confirmation of proposals and early liaison with STW will be required. This will ensure that STW can make allowances for any additional capacity needs in their long term planning'. The Water Cycle Study also states that 'there are no funding, planning, or environmental constraints identified to providing the infrastructure necessary to meet the proposed level of development. Measures will be needed but they are sustainable and deliverable within the necessary timescale'. It should be noted that the Water Cycle Study was working on an assumption of approximately 6,000 dwellings to be delivered at Lincolnshire Lakes. On this basis, it is concluded that no further assessment is required as part of this HRA, although there will need to be an infrastructure phasing commitment within the AAP to ensure that delivery of housing keeps pace with delivery of the necessary wastewater treatment upgrades and consent revisions for Yaddlethorpe WwTW.*

### 3.7

#### **Loss of Supporting Habitat**

The Humber Estuary Ramsar site (although not the SPA) lies close to the Lincolnshire Lakes area in the form of the lower reaches of the River Trent. The development proposed within the AAP would extend over areas of farmland that could potentially support significant numbers of bird species for which the Humber Estuary SPA and Ramsar sites are designated. Loss of habitat that supports significant numbers of SPA/Ramsar birds could still indirectly lead to a likely significant effect on the European site, even though it occurs outside the actual boundaries of the site. This is considered the most realistic pathway for potential impact on the interest features of the SPA/Ramsar site. A series of wintering bird surveys of those fields was therefore undertaken during winter 2011/2012. Those have informed this HRA.

## 4 HUMBER ESTUARY SAC, SPA AND RAMSAR SITES

### 4.1 Introduction

The Humber Estuary is the largest micro-tidal estuary on the North Sea Coast. It has the second-highest tidal range in Britain and approximately one third of the estuary is exposed as mud or sandflats at low tide. The inner estuary supports extensive areas of reedbed with areas of mature and developing saltmarsh backed in places by areas of grazing marsh in the middle and outer estuary.

It is a nationally important site with a series of nationally important habitats including the estuary (together with its component habitats of intertidal mudflats, sandflats and coastal saltmarsh) and the associated saline lagoons, sand dunes and standing waters. The estuary supports nationally important numbers of wintering and passage waterfowl and waders and a nationally important assemblage of breeding birds of lowland open waters and their margins.

Wintering waterfowl and passage waders are widely distributed throughout the site. The estuary supports 22 species of wintering waterfowl in nationally important numbers including bittern (*Botaurus stellaris*) dark-bellied brent goose (*Branta bernicla*), avocet (*Recurvirostra avosetta*), lapwing (*Vanellus vanellus*), curlew (*Numenius arquata*) and redshank (*Tringa tetanus*). Additionally nine species of passage wader occurs regularly in nationally important numbers including ringed plover (*Charadrius hiaticula*), grey plover (*Pluvialis squatarola*) sanderling (*Calidris alba*) and whimbrel (*Numenius phaeopus*). The breeding bird assemblage includes nationally important numbers of bittern, marsh harrier (*Circus aeruginosus*), avocet and bearded tit (*Panurus biarmicus*) as well as reed warbler (*Acrocephalus scirpaceus*) yellow wagtail (*Motacilla flava*), common tern (*Sterna hirundo*) and shoveler (*Anas clypeata*). The distribution of the breeding species that make up the assemblage is concentrated within the clay pits, lagoons and reedbeds at Far Ings – Barton, Read's Island and Blacktoft Sands.

The Estuary supports one of the largest grey seal (*Halichoerus grypus*) breeding colonies in England. In addition it also acts as an important migration route for both river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinum*) between coastal waters and their spawning areas.

At least ten nationally scarce species of vascular plant including bulbous foxtail (*Alopecurus bulbosus*), divided sedge (*Carex divisa*), slender hare's-ear (*Bupleurum tenuissimum*) and sea clover (*Trifolium squamosum*) occur across the site with several scarce species of vascular plant occurring at or close to the northern or southern limits of their range on the east coast of Britain.

Assemblages of terrestrial and aquatic invertebrates are well represented across site including many scarce and threatened species especially the Coleoptera and Lepidoptera.

In the most recent Natural England condition assessment of the SSSI that underpins the SAC and Ramsar designations, 91% of the estuary was considered to be recovering from unfavourable status.

The Humber Estuary Ramsar site (the lower River Trent) lies close to the Lincolnshire Lakes area. The SSSI units adjacent to the Lincolnshire Lakes AAP (shown on Figure 1) were assessed as follows in December 2010:

- Unit 48 - The area is industrial with shipping activity. Unit is not grazed. Extent of S21, S4, S26 maintained overall. Himalayan Balsam present in patches. Unit affected by coastal squeeze. Condition should be recorded as 'unfavourable recovering' as the Humber Flood Risk Management Strategy has been approved for delivery. The strategy includes a programme of managed realignments required to offset losses to coastal

squeeze over the next 50 years. The first sites in the inner and middle estuary have been delivered (Alkborough Flats and Paull Holme Strays). A review of the CHaMP is currently underway, and the Appropriate Assessment for the strategy as a whole, and for the first five year package of works is being prepared. The condition of units affected by coastal squeeze will be reviewed once these processes have been completed in light of any changes to the timing of delivery of future managed realignments, and any changes to the balance sheet which charts habitat losses and gains (in the context of an understanding that this balance sheet must remain 'in the black' for each of the inner, middle and outer areas of the estuary).

- Unit 49 – This unit lies on the opposite side of the River Trent from Lincolnshire Lakes. According to the condition assessment, many residents have extended gardens into the SSSI at the North end of Keadby, cutting phragmites and dumping garden waste and keeping chickens. Extensive stands of Himalayan Balsam in places. S21 extent has been maintained. Unit affected by coastal squeeze. Condition should be recorded as 'unfavourable recovering' as the Humber Flood Risk Management Strategy has been approved for delivery. The strategy includes a programme of managed realignments required to offset losses to coastal squeeze over the next 50 years. The first sites in the inner and middle estuary have been delivered (Alkborough Flats and Paull Holme Strays). A review of the CHaMP is currently underway, and the Appropriate Assessment for the strategy as a whole, and for the first five year package of works, is being prepared. The condition of units affected by coastal squeeze will be reviewed once these processes have been completed in light of any changes to the timing of delivery of future managed realignments, and any changes to the balance sheet which charts habitat losses and gains (in the context of an understanding that this balance sheet must remain 'in the black' for each of the inner, middle and outer areas of the estuary).
- Unit 181 - Subtidal invertebrate and sediment analysis showed that there are 5 predominant biotopes in the estuary. The biotopes and species recorded were as expected for the area. River lamprey and sea lamprey are continuing to breed in spawning rivers. Sea lamprey and the estuary features have been judged as unfavourable recovering (at risk) as water quality parameters have failed within the last six years due to the dissolved oxygen sag in the Humber which can affect migration. Reduction of the DO Sag has been a priority of the Environment Agency through the recent review of consent work.

#### 4.2 Features of European/international interest<sup>22</sup>

The Humber Estuary SAC is designated for its:

- Estuaries;
- Mudflats and sandflats not covered by seawater at low tide;
- Sandbanks which are slightly covered by sea water all the time;
- Coastal lagoons;
- *Salicornia* and other annuals colonising mud and sand;

<sup>22</sup> Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

- Atlantic salt meadows;
- Embryonic shifting dunes;
- Dunes along the shoreline with *Ammophila arenaria* ('white dunes');
- Fixed dunes with herbaceous vegetation ('grey dunes');
- Dunes with *Hippophae rhamnoides*;
- Sea lamprey (*Petromyzon marinus*);
- River lamprey (*Lampetra fluviatilis*); and
- Grey seals (*Halichoerus grypus*)

The Humber Estuary qualifies as an SPA for its:

Breeding birds – during the breeding season the area regularly supports:

- Bittern (*Botaurus stellaris*) - 10.5% of the population in Great Britain 2000-2002;
- Marsh harrier (*Circus aeruginosus*) - 6.3% of the population in Great Britain 1998-2002;
- Avocet (*Recurvirostra avosetta*) - 8.6% of the population in Great Britain 1998-2002;
- Little tern (*Sterna albifrons*) - 2.1% of the population in Great Britain 1998-2002.

Over winter the area regularly supports:

- Bittern - 4% of the population in Great Britain 1998/9 to 2002/3
- Hen harrier (*Circus cyaneus*) - 1.1% of the population in Great Britain 1997/8 to 2001/2
- Bar-tailed godwit (*Limosa lapponica*) - 4.4% of the population in Great Britain 1996/7 to 2000/1
- Golden plover (*Pluvialis apricaria*) - 12.3% of the population in Great Britain 1996/7 to 2000/1
- Avocet - 1.7% of the population in Great Britain 1996/7 to 2000/1

On passage the area regularly supports:

- Riff (*Philomachus pugnax*) - 1.4% of the population in Great Britain 1996-2000

The SPA also qualifies for supporting over winter:

- Dunlin (*Calidris alpina alpina*) (Northern Siberia/Europe/Western Africa) - 1.7% of the population 1996/7 to 2000/1
- Knot (*Calidris canutus*) (North-eastern Canada/Greenland/Iceland/Northwestern Europe) - 6.3% of the population 1996/7 to 2000/1
- Black-tailed godwit (*Limosa limosa islandica*) (Iceland - breeding) - 3.2% of the population 1996/7 to 2000/1
- Shelduck (*Tadorna tadorna*) (North-western Europe) - 1.5% of the population 1996/7 to 2000/1

- Redshank (*Tringa totanus*) (Eastern Atlantic - wintering) - 3.6% of the population 1996/7 to 2000/1

On passage the area also qualifies for regularly supporting:

- Dunlin (Northern Siberia/Europe/Western Africa) - 1.5% of the population 1996-2000
- Knot (North-eastern Canada/Greenland/Iceland/Northwestern Europe) - 4.1% of the population 1996-2000
- Black-tailed godwit (Iceland - breeding) - 2.6% of the population 1996-2000
- Redshank (Eastern Atlantic - wintering) - 5.7% of the population 1996-2000

The SPA also qualifies through supporting an internationally important assemblage of birds. In the non-breeding season the area regularly supports: 153934 waterfowl (5 year peak mean 1996/7 to 2000/1)

Although The Humber Estuary does qualify as a SPA for its bird interest, this designation is, at the closest point to the Lincolnshire Lakes SPA, over 10km upstream.

The Humber Estuary is designated as a Ramsar site under the following criteria:

#### **Ramsar criterion 1**

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. Examples of both strandline, foredune, mobile, semi-fixed dunes, fixed dunes and dune grassland appear on both banks and along the coast. Within the Humber Estuary there are good examples of four of the five physiographic types of saline lagoon.

#### **Ramsar criterion 3**

The site supports a breeding colony of grey seals at Donna Nook – the second largest grey seal colony in England. 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*).

#### **Ramsar criterion 5**

Assemblages of international importance:

- 153,934 waterfowl, non breeding season (5 year peak mean 1996/97-2000/2001)

#### **Ramsar criterion 6**

Species/populations occurring at levels of international importance.

- Golden plover 17,996 individuals, passage, representing an average of 2.2% of the population (5 year peak mean 1996-2000), and 30,709 individuals, wintering, representing an average of 3.8% of the population (5 year peak mean 1996/7-2000/1)
- Knot 18,500 individuals, passage, representing an average of 4.1% of the population (5 year peak mean 1996-2000) and 28,165 individuals, wintering, representing an average of 6.3% of the population (5 year peak mean 1996/7-2000/1)

- Dunlin 20,269 individuals, passage, representing an average of 1.5% of the population (5 year peak mean 1996-2000) and 22,222 individuals, wintering, representing an average of 1.7% of the population (5 year peak mean 1996/7-2000/1)
- Black-tailed godwit 915 individuals representing an average of 2.6% of the population (5 year peak mean 1996-2000) and 1,113 individuals, wintering, representing an average of 3.2% of the population (5 year peak mean 1996/7-2000/1)
- Redshank 7,462 individuals, passage, representing an average of 5.7% of the population (5 year peak mean 1996-2000) and 4,632 individuals, wintering, representing an average of 3.6% of the population (5 year peak mean 1996/7-2000/1)
- Shelduck Northwestern Europe (breeding) population 4,464 individuals, wintering, representing an average of 1.5% of the population (5 year peak mean 1996/7-2000/1)
- Bar-tailed godwit 2,752 individuals, wintering, representing an average of 2.3% of the population (5 year peak mean 1996/7-2000/1)

### **Ramsar criterion 8**

The Humber estuary acts as an important migration route for both river lamprey and sea lamprey between coastal waters and their spawning area

#### **4.3 Conservation objectives**

The Conservation Objectives for the European interests on the SAC and Ramsar site are, subject to natural changes:

- to maintain\*, in favourable condition:
  - The extent and distribution of qualifying natural habitats and habitats of qualifying species;
  - The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;
  - The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
  - The populations of qualifying species;
  - The distribution of qualifying species within the site.

\* maintenance implies restoration if the feature is not currently in favourable condition

#### **4.4 Potential effects of the Final Option AAP and Policies**

Four potential impacts of the AAP upon the SAC, SPA and Ramsar sites have been identified as requiring consideration:

- Urbanisation;
- Recreational disturbance;
- Air pollution; and
- Loss of supporting habitat

## Urbanisation

### **Final Option**

The 2010 Natural England condition assessment of the relevant parts of the Humber Estuary SSSI indicated that “*many residents have extended gardens into the SSSI at the North end of Keadby, cutting Phragmites and dumping garden waste and keeping chickens. Extensive stands of Himalayan Balsam in places.*” However, this clearly appears to relate to residents living immediately adjacent to the SAC/Ramsar site. The nearest village proposed within the AAP final option will be 1.3km from the SAC/Ramsar site at its closest, with most of the development being 2-5km away. The plans also indicate that no vehicular access will be provided to the riverbank adjacent to the SAC/Ramsar, nor will public footpaths be provided in this direction from the development. Therefore there is no likelihood of the Humber Estuary Ramsar site becoming ‘urbanised’ as a result of the Lincolnshire Lakes development. No likely significant effect would therefore arise from this pathway.

### **Policies**

None of the Policies supporting the Final Option AAP would lead to urbanisation effects on the Humber Estuary European designated sites.

## Recreational activity within the SAC/SPA/Ramsar site

### **Final Option**

The 6,077 new dwellings to be delivered via the implementation of the AAP will significantly contribute to the delivery of 9,892 new dwellings in Scunthorpe, a large part of part of 12,063 dwellings to be delivered in North Lincolnshire under the North Lincolnshire Core Strategy (2011) between 2010 and 2026.

Although the Humber Estuary Ramsar site (lower River Trent) lies relatively close to the Lincolnshire Lakes area (approximately 1.3km from the nearest proposed village), scrutiny of aerial photography and mapping identifies that there are no Public Rights of Way along or into the Ramsar site until north of Gunness, approximately 2.5km to the north of Lincolnshire Lakes, and even at that point an embankment effectively shields the Ramsar site. The Lincolnshire Lakes AAP does not propose introducing a new access to the River Trent, particularly not in its internationally designated sections. All residential development will be to the south of the existing railway line, across which there is currently no foot access. Therefore, there is very little likelihood of walkers, cyclists, and dog walkers directly accessing the European sites from their homes. Moreover, the lower River Trent is of international importance primarily for its intertidal habitats and river and sea lamprey on migration between their coastal and spawning locations, which are considerably less vulnerable to disturbance than those areas covered by the SPA designation, much further downstream.

In order to determine the likely effect on the rest of the Humber Estuary SAC/SPA/Ramsar site, the visitor survey for the European site undertaken by Footprint Ecology has been utilised. For this survey, a total of 614 face-to-face interviews were conducted with visitors at 20 different survey points, with the majority of fieldwork conducted during the winter November 2011 – March 2012 since this is the period when bird populations are highest and therefore most vulnerable to disturbance. Eighty-eight percent of visitors interviewed were local residents visiting on a short trip or day trip from home. Dog walking was the main activity undertaken (40% of interviewed visitors) and other activities included walking (27% of interviews), wildlife watching (13%), family outing (3%), fishing (3%), airborne activities (3%), cycling (2%) and jogging (2%). Very uncommon activities (1% or less) included bait digging, kite surfing, and use of off-road vehicles. No one was interviewed who stated that their main activity was wildfowling, canoeing or windsurfing. Most (70%) of interviewees arrived at sites

by car. Home postcodes indicated people travelling from their home lived a median distance of 4.4km from the survey point.

During visitor surveys, the nearest location to Scunthorpe where significant visitor activity coincided with an area of key importance for birds was Blacktoft RSPB reserve (point 12 in the visitor survey; most visitors were bird watchers who will know enough to minimise disturbance). Although there are several other key areas for birds such as Alkborough Flats at a similar distance from Scunthorpe, only very small numbers of visitors were recorded there. Aside from being an RSPB reserve mainly visited by birdwatchers (rather than being an area used by the general public for dog walking etc) Blacktoft RSPB reserve is over 10km from the Lincolnshire Lakes area, much further than the 4km median distance travelled between place of residence and the SPA/Ramsar site. This is reflected in the findings of the visitor survey that although 614 people were interviewed, only 11 came from Scunthorpe (1.8% of the total). Scunthorpe therefore currently makes an effectively trivial contribution to recreational activity within the SPA.

If one takes a very precautionary approach and assumes a typical occupancy of 2.4 people/dwelling and that all of these would be newcomers to Scunthorpe (rather than existing residents being re-housed) this would mean a worst-case scenario potential increase of up to 36% in the population of Scunthorpe from Lincolnshire Lakes and other Core Strategy housing within Scunthorpe combined (from a current population of 80,750 to approximately 109,701). If one increases the percentage of visitors to the Humber Estuary attributable to Scunthorpe pro rata that would mean that there would be an approximately 0.7% increase in visitors to the Humber Estuary SAC/SPA/Ramsar site attributable to the Lincolnshire Lakes development ( $1.8 * 0.36 = 0.65$ ). The number of visitors to the European sites arising from Scunthorpe would therefore barely change and Scunthorpe would continue to make a trivial contribution to visitors, even making very precautionary assumptions about population change. Since the contribution from Scunthorpe is, and would continue to be, effectively neutral there would be no likely significant effect either alone or in combination with other projects and plans as a result of recreational disturbance.

In addition, the design incorporates:

- Over 30ha of greenspace, which should aim to deflect users from the River Trent and the European sites.
- No direct access to the SAC/ Ramsar site by foot, cycle or vehicles
- No facilities adjacent to the SAC/Ramsar site

## Policies

None of the Policies supporting the Final Option AAP promote access to the Humber Estuary European designated sites, and the policies (G1 and G4) promote semi-natural greenspace that should help to deflect users from these sites.

## Loss of Supporting Habitat

### Final Option

The SPA designation for the Humber Estuary is purely determined on its bird interest and bird interest forms part of the Ramsar designation also. Wintering bird surveys undertaken in 2011-12 indicated that significant flocks of golden plover (*Pluvialis apricaria*) occur during the winter on fields within the AAP area, almost exclusively within the north of the proposed development zone. In December 2011, the numbers recorded were 2,300 birds, comprising 7.5% of the Ramsar designated population.

The Lincolnshire Lakes Final Option will retain the area used by the golden plover as agricultural land and the nearest village will be located 1.5km distant. Therefore there is no likely significant loss of the habitat currently used by these birds. It can thus be concluded that the Lincolnshire Lakes AAP will not lead to any likely significant effects on the Humber Estuary SPA or Ramsar site through loss of supporting habitat of value to designated bird species.

### Policies

None of the Policies supporting the Final Option AAP directly promote development that would lead to loss of supporting habitat for golden plover, and hence will not lead to effects on the Humber Estuary European designated sites.

However, Policy SS4 (Development Limits) does allow for the expansion of the allocated development land within the AAP in exceptional circumstances. The policy does commit to the need for any planning applications to consider biodiversity constraints and mitigation, but it is important to note that development beyond the current allocated development land would require an update to this HRA.

### Disturbance of SPA/Ramsar bird flocks on farmland

#### Final Option

Since the fields north-west of Lincolnshire Lakes support the equivalent of 7.5% of the Ramsar population of golden plover render it is important to ensure that they continue to be able to support these flocks.

Under the AAP final option, the nearest village will be 1.5km from the nearest important areas of arable land. Tolerance of disturbance by walkers has been recorded for golden plover and found to be in the range of 50-100m<sup>23</sup>. The AAP option does not include public access to the fields in which the plover occur. Golden plover regularly occur in fields alongside major roads and therefore noise disturbance of the type which would be associated with housing development can be considered a relatively unimportant factor, particularly given the large distance separating these fields from the nearest village. However, safeguards may be required during construction works to minimise disturbance of golden plover flocks, depending upon the degree of change in noise levels that would be expected within the fields in question. This could be determined during standard Environmental Impact Assessment for the planning application.

Care would need to be taken to ensure that incidental illumination of these fields was minimised, since golden plover forage by night as well as by day. It is assumed that this would be desirable in any case, since incidental illumination would be a waste of power and resources.

It is concluded that there would be no likely significant disturbance effect on the interest features of the Humber Estuary SAC, SPA and Ramsar site due to the Lincolnshire Lakes AAP alone or in combination with other plans and projects. No specific safeguards are identified as being necessary.

However, although not specifically required as mitigation, the following is considered good practice and as such has been included in Policy T9 (Pedestrian, Cycleways and Bridleway Network):

<sup>23</sup> Brayshaw, S. (2010). Survey Work to Support the Appropriate Assessment for the West Northamptonshire Joint Core Strategy. RS Brayshaw Ecological Consultancy in association with Environ.

- The fields to the north of the housing development area should not be made publically accessible, or if public access is proposed adequate screening of footpaths would be required in order to avoid disturbance of golden plover flocks.

The AAP did identify the possibility of a future stadium being located north of the railway line, within 500m of the southern-most area identified of being of relevance for golden plover. There could have been disturbance impacts associated with the delivery of such a facility which would require the enhancement of farmland elsewhere within the north-west Scunthorpe area to ensure that there was no effective net loss of habitat for golden plover due to displacement. However, the AAP now makes it clear that any stadium would be located in the mixed use area (commercial park) of the site. Therefore no likely significant effects would occur, as the mixed use area is a considerable distance from the fields used by golden plover.

### Policies

None of the Policies supporting the Final Option AAP directly promote development that would lead to disturbance of golden plover, and hence lead to effects on the Humber Estuary European designated sites.

However, Policy SS4 (Development Limits) does allow for the expansion of the allocated development land within the AAP in exceptional circumstances. The policy does commit to the need for any planning applications to consider biodiversity constraints and mitigation, but it is important to note that development beyond the current allocated development land would require an update to this HRA.

The AAP Policy SC3 (Strategic Mixed Use Area) provides for a potential development of a new stadium within the mixed use area of the AAP. This does not lead to likely significant effects on the Humber Estuary European designated sites.

AAP Policy SC4 discusses the expansion of The Port of Scunthorpe. In itself, the expansion of the Port would potentially result in a likely significant effect upon the European designated sites depending on how it was delivered. However, it is important to note that the policy only outlines support for an expansion of the Port. The policy however does not identify a location or extent of any port extension and the expansion of the Port is not actually part of the AAP. As such, this policy (as opposed to the Port expansion itself) will have no likely significant effect upon the Humber Estuary European designated sites. However, any future project-specific assessment that outlines the extent and location for the proposed port expansion would need to include an HRA screening exercise. Wording has been included within Policy SC4 to reflect this.

AAP Policy F1 (Strategic Flood Mitigation Strategy) includes the need to raise the right-hand bank of the River Trent. The stretch of bank in question is adjacent to the AAP area and therefore south of the Humber Estuary Ramsar site. However, at its northern extent it is partially adjacent to the Humber Estuary European designated sites. Provided defence-raising (i.e. piling) does not enter the Ramsar site and that standard water quality controls, and seasonal restrictions (i.e. that any works within 200m of the Ramsar site are undertaken outside the wintering bird season) are followed, it is considered that there will be no likely significant effect upon the European designated site. It is recommended that this policy includes reference to the requirement to ensure that the Habitats Directive is complied with for any flood mitigation strategy.

## Air Quality

### **Final Option**

Some of the habitats (saltmarsh, sand dune) for which the Humber SAC and Ramsar sites are designated are vulnerable to NOx emissions and nitrogen deposition associated with substantial increases in traffic on roads within 200m. However, the only SAC/SPA/Ramsar habitat that lies within 200m of roads around the Lincolnshire Lakes is intertidal mudflat, which lies within 200m of the A18 at the King George V Bridge. Since it has no particular botanical aspects, this habitat is one of the least vulnerable to atmospheric emissions and nitrogen deposition. Moreover, nitrogen deposition from atmosphere and the SAC/Ramsar site at this point (484117, 41065) lies below its critical level/load for both NOx and nitrogen deposition (20 kgN/ha/yr) according to the UK Air Pollution Information System. The AAP will not include any new roads within 200m of the European sites.

Road improvements are projected as part of the project with a new M181 junction to facilitate access. This is not likely to lead to increased traffic within 200m of the European sites. Transport proposals for the AAP are aimed at directing road traffic east (into Scunthorpe) or south towards the motorway, rather than west or north towards the SAC/Ramsar site. Therefore, it is concluded that the Lincolnshire Lakes AAP will not lead to likely significant effects on the Humber Estuary SAC/Ramsar site through traffic-related air quality.

### **Policies**

None of the Policies supporting the Final Option AAP would lead to reduced air quality effects on the Humber Estuary European designated sites.

## **4.5**

### **Other plans and projects**

There are no other plans and projects that would potentially lead to direct impacts on the farmland north of Lincolnshire Lakes that has been identified as being important for SPA/Ramsar birds. The Humber Estuary Coastal Defence Strategy and the Humber Estuary Shoreline Management Plan have both been identified through their own HRAs as leading to adverse effects on the Humber Estuary SAC/SPA/Ramsar site primarily through coastal squeeze. However, since the Lincolnshire Lakes project does not propose advancing the line of the flood defences along the River Trent, or introducing new defences into currently undefended stretches of the River there is no mechanism for an 'in combination' effect.

Development elsewhere in North Lincolnshire, where 12,063 new dwellings will be delivered under the Core Strategy, could in theory also lead to increased traffic movements over the A18 at King George V Bridge. However, the SAC/Ramsar site interest features at this location (intertidal mudflat) are not considered particularly susceptible to NOx emissions and nitrogen deposition from the atmosphere and the SAC/Ramsar site at this point lies below its critical level/load for both NOx and nitrogen deposition according to the UK Air Pollution Information System and is forecast by that same system to be even further below by 2020.

Increased housing and residential development elsewhere within the recreational catchment of the Humber Estuary SAC/SPA/Ramsar site, as defined within the recent visitor study for that site, could lead to increased recreational pressure when considered collectively, depending upon the population increases involved and the specific locations at which development will be delivered. However, it has already been established that the Lincolnshire Lakes development will, because of the small proportion of visitors who derive from the Scunthorpe area, lead to an essentially neutral effect on visitor numbers within the SAC/SPA/Ramsar site. As such, Lincolnshire Lakes will have a neutral effect on visitor numbers even if visitor pressure from other settlements increases.

It can therefore be concluded that there would be no likely significant effect of the Lincolnshire Lakes development 'in combination' with other projects and plans.

**4.6****Previous consultations**

A previous iteration of this HRA was consulted upon for the Options stage of the AAP. At that time, four options were available consideration of which one (Option A) involved placing a village north of the railway line and in close proximity to habitat of value for golden plover; this village was identified as having potential to lead to likely significant effects. In response to the consultation Natural England (John King) concurred with the conclusion of the HRA and commented that '*Option A includes a village north of the railway line. Given the proximity of this village to areas used by significant numbers of Golden Plover (part of the Ramsar site's wildfowl bird assemblage), Natural England are concerned that this option may disturb these species. This issue is being addressed through the Habitats Regulation Assessment. If Option A is selected, Natural England would welcome further discussions on the potential disturbance of Ramsar birds within the AAP*'. In response to these concerns and other considerations, the final option of the AAP does not propose any villages north of the railway line, with the nearest village being 1.5km south of the key area of farmland for golden plover.

**5****OVERALL CONCLUSION**

It has been possible to conclude that the Final Option of the Lincolnshire Lakes AAP will not lead to likely significant effects on the Humber Estuary SAC, SPA or Ramsar site, either alone or in combination with other plans and projects.

It has been possible to conclude that the Policies that support the Final Option AAP will also not lead to likely significant effects on the Humber Estuary SAC, SPA or Ramsar site, either alone or in combination with other plans and projects, with the following caveats:

- Any expansion of the currently allocated development land, as discussed in Policy SS4 (Development Limits) would require an update to this HRA screening in order to appraise effects on European sites and ensure no adverse effect resulted.
- Any future expansion of Scunthorpe Port (Policy SC4) will require a project-specific Habitat regulations Assessment to screen out any potential likely significant effects on the Humber Estuaries European designated sites.
- The raising if the right hand bank of the Trent River will not have a likely significant effect upon the Humber Estuary European designated sites providing avoidance measures are undertaken. These are as follows:
  - Adhere to standard water quality controls; and,
  - Any works close to the Humber Estuaries European designated sites (within 200m) are undertaken outside the wintering bird season.

6

## APPENDIX A – LINCOLNSHIRE LAKES AAP POLICIES AND HRA SCREENING OUTCOME

Policy Reference	Policy text or summary	HRA Screening Outcome
SS1: Delivering the Presumption in Favour of Sustainable Development.	<p>When considering the Lincolnshire Lakes development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.</p> <p>Planning applications that accord with the policies in this AAP (and, where relevant, with polices in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.</p> <p>Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether: any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or specific policies in that Framework indicate that development should be restricted.</p>	<p>This policy reflects the position of the NPPF in the presumption in favour of sustainable development. However, there is a caveat with respect to 'material considerations', which in the context of the NPPF will explicitly include protection of European sites. Thus in itself, this policy does not create any likely significant adverse effects.</p>
SS2: Spatial Concept & Place-Making	<p>The Concept Framework and Design Principles set out below should inform the detailed design of AAP proposals (D4 Strategic Design Codes and D5 Area Masterplans):</p> <p><u>Green Infrastructure:</u></p> <ul style="list-style-type: none"> <li>• Water and specifically lakes, should be a central characteristic and structuring element of the</li> </ul>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>development that provide for multi-functional spaces, habitat and biodiversity enhancement and public use and enjoyment (for example, recreation, commercial leisure, arts, tourism, eating and drinking, working and waterside living).</p> <ul style="list-style-type: none"> <li>• A cohesive and integrated landscape structure that responds to the differing landscape characteristics to the west and east of the M181 should be provided that:             <ul style="list-style-type: none"> <li>a) assists in linking the blue infrastructure with the green infrastructure and villages</li> <li>b) creates a variety of green spaces and linkages (including enhancing the connecting role of Brumby Common Lane)</li> <li>c) integrates advance and structural planting to mitigate the impact of development on neighbouring uses, enhance the setting of new buildings and help to mitigate the noise and visual impact of the M181.</li> </ul> </li> <li>• Existing woodland (Brumby Grove and Brumby Common), mature trees and hedgerows should be retained within the new development sensitively arranged around them to create a parkland character</li> <li>• Existing ditches and drains should be integrated into the new development and landscape structure to provide for sustainable drainage, ecological enhancements and creating a distinctive character to the village developments</li> <li>• The delivery of a robust flood mitigation and drainage solution should be a leading design and development consideration,</li> </ul>	

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>building on the existing extensive network of drainage channels and considering future ground levels and the role of the new lakes.</p> <ul style="list-style-type: none"> <li>• Ecological enhancements and new habitat creation to diversify the range of habitats (e.g. grasslands, wetlands, woodlands) and support biodiversity should be integrated into all proposals</li> </ul> <p><u>Place:</u></p> <ul style="list-style-type: none"> <li>• A high quality place with a distinctive 'waterside and woodland' character that balances existing townscape characteristics with contemporary and innovative design to provide a new vernacular for Lincolnshire Lakes</li> <li>• Each village should have a well-structured layout and clear identity that responds to the site opportunities and landscape characteristics. A sense of place and clear orientation should be developed through the use of landmarks, gateways, key buildings, framing and enhancing views, and focal points and ensuring sufficient continuity and enclosure of spaces and streets.</li> <li>• Development blocks should be designed to create continuous frontage into the public realm, protecting and enlivening it with activity and passive surveillance</li> <li>• Building, street and space typologies should positively respond to and integrate with the water areas and distinctive design should make the most of the waterfront.</li> <li>• The public realm, including hard and soft spaces, pedestrian routes and cycleways and lakes must be attractively designed and constructed with high quality durable materials with carefully</li> </ul>	

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>defined thresholds between public and private space to avoid unusable left over space</p> <ul style="list-style-type: none"> <li>• Spaces should be created for public art and public events that help to create a sense of place, express the identity of the area and support activity and interest.</li> <li>• A series of strategic views and vistas should be created within and between the villages and lake areas to assist with integration, accessibility and legibility</li> <li>• The design of the development should minimise the use of energy and maximise energy efficiency through the use of renewables and maximise solar orientation through optimal use of east-west street alignments and passive design within dwellings</li> </ul> <p><u>Movement:</u></p> <ul style="list-style-type: none"> <li>• Integrated walkable neighbourhoods with a mixture of housing densities, type and tenure linked to local facilities and the public transport network should be identified.</li> <li>• Development should ensure sustainable transport routes are delivered within and beyond the site through a network of streets providing a choice of route with a presumption in favour of walking, cycling and public transport.</li> <li>• A clear hierarchy of streets which incorporate the principles of Manual for Streets focusing on the spatial quality of streets and their place-making role should be developed (including street widths, on street parking, footpath/cycleways, tree planting, street enclosure and relative height width ratios)</li> <li>• A permeable and high quality</li> </ul>	

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>network of pedestrian and cycle connections should be provided across the development (north-south and east-west) to link the village areas together with the lakes, community facilities and services and existing settlements and facilities</p>	
SS3: Strategic Development Requirements	<p>AAP development will include:</p> <ul style="list-style-type: none"> <li>• Approximately 6,000 houses in 6 waterside villages</li> <li>• 5 lakes with opportunities for leisure and recreation, and for enhancing biodiversity</li> <li>• A centrally located mixed use area and adjacent District Centre, with opportunities for the delivery of new employment, retail, sports / leisure and community facilities and services</li> <li>• 6 Local Centres, one in each village</li> <li>• 3 new Primary Schools, intended to function as 'extended schools', and consideration of Secondary School provision towards the end of the plan period</li> <li>• A new road network including 2 new roundabout junctions along the de-trunked M181, a Strategic Route east-west to Scotter Road (along the route of Burringham Road) and a new Primary Route linking the villages to each other and to the strategic network / Scotter Road</li> <li>• An integrated network of green infrastructure within and outside of the villages</li> <li>• Flood mitigation based on a combination of flood defence</li> </ul>	<p>The policy includes the provision of approximately 6,000 new dwellings. This has been subject to HRA assessment and screened out at the Final Option stage.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>improvement works to the River Trent right bank defences and land raising of the proposed built development areas</p> <ul style="list-style-type: none"> <li>• Drainage infrastructure including the upgrade of existing watercourses and/or ditches, the creation of new swales and/or ditches to drain the new development areas and surface water attenuation via Lakes 1 –</li> </ul> <p>This development will be delivered across six Strategic Site Allocations:</p> <ol style="list-style-type: none"> <li>1. Strategic Mixed Use Area and District Centre (see Policy SSA1)</li> <li>2. Villages 1 and 2 and Lake 1 (see Policy SSA2)</li> <li>3. Villages 3 and 4 and Lake 2 (see Policy SSA3)</li> <li>4. Lake 5 and surrounding area (see Policy SSA4)</li> <li>5. Village 5 and Lake 3 (see Policy SSA5)</li> <li>6. Village 6 and Lake 4 (see Policy SSA6)</li> </ol>	
SS4: Development Limits	<p>No built development will be permitted in the AAP area outside of the allocated built development limits. The Council will only consider the case for expansion or alteration of the built development limits where detailed assessments provided by an applicant demonstrate that technical factors necessitate a change, and the changes proposed are in line with the AAP vision and objectives. Such factors might lead to an identified reduction in the capacity of the allocated development land, which could necessitate the expansion of land take to ensure the delivery of 6,000 houses. Key factors that may influence the location of the built development limits at the planning application stage include:</p>	<p>Land take above and beyond that considered within the Final Option AAP boundary could lead to likely significant effects on European sites, in particular through land take or disturbance affecting golden plover that utilize agricultural fields outside the current AAP boundary.</p> <p>The policy does however indicate that any planning application would need to consider several issues, including biodiversity constraints and mitigation.</p> <p>It would be necessary for any development outside of the current AAP envelope to be subject to updated HRA screening in order to determine any effects.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<ul style="list-style-type: none"> <li>• Requirements for flood risk management and surface water drainage</li> <li>• Internal Drainage Board (IDB) restrictions</li> <li>• Biodiversity constraints / mitigation</li> <li>• Ground conditions</li> <li>• Archaeological constraints</li> <li>• Utilities constraints</li> </ul> <p>Areas not specifically allocated for infrastructure or built development on the AAP Proposals Map or covered by Saved Policies LC4 &amp; LC11 are identified as Open Countryside / Agricultural Land. In these areas, development will be strictly controlled as per Saved Policy R2 and any future replacement policies.</p>	
	<p>In order to deliver 6,000 dwellings to 2028, each village shown on the Proposals Map will deliver the following approximate number of dwellings:</p> <ul style="list-style-type: none"> <li>• Village 1 – approximately 643 dwellings</li> <li>• Village 2 – approximately 1,217 dwellings</li> <li>• Village 3 – approximately 987 dwellings</li> <li>• Village 4 – approximately 769 dwellings</li> <li>• Village 5 – approximately 1,100 dwellings</li> <li>• Village 6 – approximately 1,361 dwellings</li> </ul> <p>The number of dwellings permitted in each village will be informed by monitoring of housing delivery. In order to achieve 6,000 dwellings</p>	<p>The distribution of housing has been considered as part of the HRA of the Final Option, and as contained within the AAP boundary, will not lead to any likely significant effects on European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>during the plan period, higher numbers of dwellings may be supported in certain villages in the event that lower numbers of dwellings are completed in other villages.</p>	
H2: Housing Requirements	<p>Approximately 6,000 dwellings will be delivered in the AAP area. This residential development should be brought forward in six distinct villages.</p> <p>The villages should be developed at a density of 30 - 35 dwellings per hectare. Higher density development is encouraged in and around the Local Centres, the Strategic Mixed Use allocation and along primary and along Primary Routes. Lower density development is encouraged towards the village fringes.</p> <p>Housing in the AAP area should provide the following mix of dwellings:</p> <ul style="list-style-type: none"> <li>• 20% of the units – two bedroom houses</li> <li>• 53% of the units – three bedroom houses</li> <li>• 27% of the units – four bedroom houses</li> </ul> <p>Variation to this mix will be permitted in line with any update to the Council's Strategic Housing Market Assessment, or should an applicant produce adequate evidence that they consider an alternative mix to be more appropriate. Such evidence will be assessed and agreed by the Council on a case by case basis.</p> <p>Up to 5% of the dwellings will be required to be affordable homes for developments of greater than 15 dwellings. Affordable housing provision of less than 5% will be subject to assessment of viability (with a full viability assessment to be provided by the developer) and subject to agreement by the Council on a case by case basis</p>	<p>There are no approaches contained within this policy that deals with timing of housing delivery and mix of housing types, that would lead to likely significant effects on the Humber Estuary European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
SC1: Education Requirements	<p>Unless otherwise proposed / agreed by the Local Education Authority, education provision within the AAP area will include 3 new Primary Schools (one 3-form entry and two 2 form entry). These schools will be located in Villages 3, 5 and 6.</p> <p>Secondary School provision may take the form of on-site provision, or off-site provision, to be agreed with the Local Education Authority.</p> <p>Schools in the AAP area will be expected to function as 'extended schools', ensuring that they are designed to allow for the community use of facilities outside of core school hours. This will include the community use of school playing pitches.</p> <p>Within the relevant villages, schools will be located in proximity to Local Centres, the District Centre, or close to key infrastructure (lakes or green spaces).</p> <p>Applicants will be expected to work with the Local Education Authority to agree the phasing of education provision.</p> <p>Applicants will be expected to meet the capital cost of Primary and Secondary School provision where such provision is on-site.</p> <p>If preferred to on-site secondary education provision, applicants will instead be required to fund secondary education provision outside of the AAP boundary for the benefit of new pupils living in the AAP area.</p>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>
SC2 District and Local Centres	<p>The AAP District Centre should be located adjacent to Village 5 and the Strategic Mixed Use Area. It will accommodate 4,700sqm (gross) of A1 retail floorspace, including:</p>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<ul style="list-style-type: none"> <li>• A supermarket of 3,300sqm (gross) – the supermarket sales area should not exceed 2,300sqm, made up of up to 1,800sqm for convenience goods and up to 500sqm for comparison goods</li> <li>• Up to 1,400sqm (gross) of other A1 floorspace – to be used primarily for the sale of comparison goods</li> </ul> <p>In addition, a total of 2,300sqm (gross) shopping floorspace (A1) will be supported across the AAP area in the form of six Local Centres (one in each village). This is broken down into the following thresholds (gross) on a village by village basis:</p> <ul style="list-style-type: none"> <li>• Village 1 – 300sqm</li> <li>• Village 2 – 500sqm</li> <li>• Village 3 – 400sqm</li> <li>• Village 4 – 300sqm</li> <li>• Village 5 – 300sqm</li> <li>• Village 6 – 500sqm</li> </ul> <p>Each village will include up to one small convenience store of up to 200sqm (gross).</p> <p>The following uses will also be supported within the District and Local Centres:</p> <ul style="list-style-type: none"> <li>• Services and leisure (A2, A3, A4, A5)</li> <li>• Health and community uses (D1)</li> </ul> <p>Detailed design strategies for the District Centre and Local Centres are required.</p>	
SC3: Strategic Mixed Use Area	The following uses will be supported	The development of non-residential uses within the AAP boundary will not

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>within the Strategic Mixed Use Area:</p> <ul style="list-style-type: none"> <li>• Offices (B1a)</li> <li>• Hotel (C1)</li> <li>• Health Centre (D1)</li> <li>• Sports Stadium (D2)</li> <li>• Other D1 and D2 uses</li> </ul>	<p>lead to likely significant effects on European designated sites.</p> <p>No pathways of impact connect the remaining non-residential development to European sites as reduced air quality has already been considered at the Final Option stage and screened out.</p>
SC4: The Port of Scunthorpe	<p>The expansion of The Port of Scunthorpe to support economic needs will be supported.</p> <p>Specific land has not been allocated to support this expansion on the basis that any application will need to be supported by a detailed economic justification and considered on its own merits at that time.</p> <p>Specific consideration will need to be given in any application to the ecological interests in the area, both in relation to the River Trent and the open countryside in the vicinity of the Port.</p>	<p>This policy does not in itself lead to likely significant effects on the Humber Estuary European site designations, as it devolves consideration of any ecological impacts to a future project-specific assessment.</p> <p>The extent and location for a potential port expansion are not detailed within this policy, so cannot be assessed.</p> <p><b>Any future project-specific assessment that outlines the extent and location for any proposed port expansion would need to include a HRA screening exercise. Wording should be included within this policy to reflect this.</b></p>
T1-T12: Strategic Highways Policies	Strategic transport network for the Lincolnshire Lakes Development is covered.	There are no approaches contained within these policies that would lead to likely significant effects on the Humber Estuary European designated sites, as no increase in traffic within 200m of the designated sites will be promoted.
F1: Strategic Flood Mitigation Strategy	The AAP flood mitigation strategy will be based on a combination of flood defence improvement works to the River Trent right bank defences and land raising of the proposed built development areas. A comprehensive management strategy is required that ensures new development is defended in line with national planning policy. Future flood management solutions identified in consultation with the Environment Agency that will assist in the delivery of the Lincolnshire Lakes	Works to the right hand bank of the River Trent have potential to have a likely significant effect upon the Ramsar site. However, assuming that piling will only take place up to the limits of the Ramsar site and that the recommended mitigation is adhered to (following standard water quality controls, and any works close to the Ramsar site (within 200m) are undertaken outside the wintering bird season is adhered to), it is considered that there will be no likely

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>should be considered. Existing communities should not be put at greater risk but given greater protection.</p> <p>In order to meet the minimum acceptable flood risk standard, the minimum level of proposed new development should be set no lower than the 0.5% AEP plus climate change flood level, plus a 300mm freeboard allowance. Minimum levels for the proposed new development should also be checked against updated flood levels for the 0.1% AEP plus climate change event.</p> <p>A Flood Evacuation Plan will also be developed for the Lincolnshire Lakes development, which will also include the consideration of existing dwellings / settlements in the AAP area (Burringham &amp; Gunness).</p> <p>Each applicant must provide a fully considered flood mitigation solution that is in-keeping with these principles and it must demonstrate a positive contribution towards the comprehensive management strategy. The flood mitigation solution must also include a fully considered geotechnical assessment demonstrating that the proposed flood mitigation solution is deliverable.</p>	<p>significant effect upon the European designated site. <b>It is recommended that this policy includes reference to the requirement to ensure that the Habitats Directive is complied with for any flood mitigation strategy.</b></p>
L1: Lincolnshire Lakes	<p>Lakes 1, 2 and 5 will form the focus of leisure and sporting activity in areas intended for widespread public access. These lakes will therefore be designed over and above the minimum requirements for surface water attenuation.</p> <p>Lakes 3 and 4 will primarily be provided for ecological enhancement purposes, and a design providing for surface water attenuation requirements only will be considered acceptable.</p> <p>Specific requirements for each of the</p>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
L2: Strategic Drainage Strategy	<p>lakes are set out</p> <p>The strategic drainage strategy for the AAP will include the following measures:</p> <ul style="list-style-type: none"> <li>• Creation of new swales and/or ditches to drain the new development areas</li> <li>• The re-sizing or re-grading of existing (non-IDB) watercourses and/or ditches</li> <li>• The diversion or abandonment of existing IDB watercourses (only where necessary)</li> <li>• Uncontrolled inflow of surface water from land drains into Lakes 1 – 4</li> <li>• Controlled discharge from the lakes to the IDB network at no more than 1.4l/s/ha</li> <li>• Smaller arterial drainage features that will serve individual plots, or a combination of plots, served by local collector systems that would then discharge into the swales/watercourses and ultimately the lakes</li> <li>• Channelling of discharge of surface water from highways to reach the lakes where necessary</li> <li>• All development proposals are required to ensure consistency with the wider lakes and surface water management strategy.</li> </ul>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>
G1: Natural and Semi-Natural Greenspace	<p>Approximately 235ha of natural and semi-natural green space will be provided on the edge of villages and outside of village built development limits as identified on the Green Infrastructure Parameters Plan.</p> <p>Natural and semi-natural greenspaces around Lakes 1, 2 and 5 will be publically accessible. Natural and</p>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p> <p>Provision of semi-natural greenspace will help to deflect users from the</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	semi-natural greenspaces around Lakes 3 and 4 should form an integral part of a wetland area with limited public access	River Trent and European sites.
G2: Recreational Provision	<p>Recreational green space will principally be provided within villages, but will also in some instances be located to link villages as identified on the Green Infrastructure Parameters Plan. Provision will include:</p> <ul style="list-style-type: none"> <li>• New parks and gardens within village built development limits and linking villages (24ha)</li> <li>• Outdoor sports facilities located within village built development limits (16.8ha)</li> <li>• Provision for children and young people within new parks / amenity green spaces (1ha)</li> </ul> <p>Allotments to the east of Villages 1 and 3 and to the west of Village 5 (2.5ha)</p>	There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.
G3: Strategic Green Linkages	<p>Strategic green linkages are required to link together key destinations and they will be created or enhanced as shown on the Green Infrastructure Parameters Plan (east – west and north – south) along Brumby Common Lane, Warping Drain, and other parts of the existing &amp; proposed land drain network.</p> <p>Other local green linkages should also be created or enhanced through the villages utilising the existing land drain network to create a multi-functional network of routes.</p>	There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.
G4: Ecological Enhancement and New Habitat Creation	<p>Areas specifically identified for ecological and habitat protection, creation or enhancement include:</p> <ul style="list-style-type: none"> <li>• New areas of woodland, acid grassland, neutral grassland, wetland and ponds within the areas identified as natural and semi-natural greenspace on the Green Infrastructure Parameters</li> </ul>	There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>Plan</p> <ul style="list-style-type: none"> <li>• Lakes 3 and 4 and surrounding habitats</li> <li>• New and existing ditches and swales</li> <li>• New and existing hedgerows</li> <li>• New and existing trees</li> <li>• The existing Local Wildlife Sites, including those identified under Policy LC4</li> <li>• LC11 areas amenity importance</li> <li>• Existing farmland</li> </ul> <p>Smaller scale opportunities to deliver green and brown walls &amp; roofs, hibernacula, bird and bat habitat boxes, bird and bat bricks and bat lofts, stone and log piles and bunds will also assist in providing suitable habitats for key species in the AAP area.</p> <p>Planning applications should include proposals for the creation and enhancement of these areas where appropriate. Planning applications should also individually consider specific impacts of development proposals on biodiversity and associated opportunities for ecological protection and enhancement within their specific site boundaries.</p>	
G5: Landscape Strategy	<p>The AAP landscape strategy will require specific consideration in terms of features to retain / enhance and strategic planting locations / sensitive edges, as well as the treatment of strategic gateways. The boundaries of the Strategic Site Allocations are identified as areas for such consideration of landscape strategy. Proposed strategic and primary gateways and landmark locations are shown on the AAP Concept Plan.</p>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>
G6: Management and Maintenance of Green Infrastructure	<p>Proposals for the management and maintenance of green infrastructure must be submitted as part of planning applications. Applicants will be</p>	<p>There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	required to contribute to the management and maintenance of green infrastructure where they do not intend to undertake these themselves.	designated sites.
SD1: Sustainable Building Design and Construction	<p>Applications for development should be accompanied by an assessment that considers the opportunities and measures considered for delivering energy efficient sustainable development and for future services provision (for example, through an IDNO model).</p> <p>Achieving Code for Sustainable Homes Levels 5 and 6 (or future equivalent) should be a target for residential development in the AAP area until superseded by changes to Government policy. Where this is not achievable, reasoned justification should be provided by an applicant. Building Regulations will remain a baseline standard that must be achieved.</p> <p>Achieving BREEAM Very Good and/or an Energy Performance Certificate rating of 40 should be a minimum requirement for non-residential development in the AAP area.</p>	There are no approaches contained within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.
SSA1-6: Strategic Mixed Use Area policies	Strategic site allocation details.	There are no approaches contained within the policies for the individual mixed use areas that would lead to likely significant effects on the Humber Estuary European designated sites.
D1: Strategic Infrastructure & Development Phasing	<p>Lincolnshire Lakes should be developed in two key phases, in line with the Infrastructure Delivery Schedule.</p> <p>Phases 1-4 will include the implementation of upfront site wide transport and flood mitigation infrastructure works to introduce the site wide strategic highway network and improved River Trent Bank flood defences. Ahead of these works, necessary works to Berkeley Circle will be completed allowing 500 dwellings in the Lincolnshire Lakes area to be</p>	This policy refers to the delivery schedule of the works within the AAP. As such, there are no pathways of impact within this policy that would lead to likely significant effects on the Humber Estuary European designated sites

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>brought forward ahead of the completion of the strategic highway works. The first 150 dwellings can be delivered using the existing local transport network.</p> <p>Phases 1-4 (1,340 houses, Villages 1 &amp; 2 Local Centres and the Strategic Mixed Use Area) broadly includes SSA1, part SSA2 and SSA4, with some very limited proposed development of SSA5 and SSA6.</p> <p>Phase 5 (4,737 houses, Villages 3, 4 5 &amp; 6 Local Centres, education provision, and District Centre) will broadly cover part SSA2, SSA3, SSA5 and SSA6.</p> <p>Each phase will be supported by the delivery of the necessary on site infrastructure (lakes, Green Infrastructure and non-motorised user routes), with enabling Primary Route and land raising works to be undertaken prior to the development of relevant plots.</p> <p>Any application for 50 dwellings or more must be supported by a phasing proposal for residential development and supporting infrastructure. Phasing will be the subject of condition or legal agreement associated with any permission.</p> <p>All planning applications should include evidence of working with adjoining land owners where villages are in multiple ownerships.</p>	
D2: Delivery & Funding Mechanisms	<p>Development in the AAP area will be supported by public sector funding, which will play an important part in delivering the required upfront transport and flood mitigation infrastructure.</p> <p>The Council will also seek developer funding of infrastructure through Section 106 and Community Infrastructure Levy if applicable.</p> <p>Partnership working between</p>	<p>This policy refers to the delivery and funding mechanisms for the works within the AAP. As such, there are no pathways of impact within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>developers and the public and third sector will be critical to ensuring delivery of non-commercial built development (affordable housing, schools, health provision) and key supporting infrastructure.</p>	
D3: Strategic Design Code	<p>Prior to the approval of any reserved matters or grant of detailed planning permission a Strategic Design Code will be required and this be agreed in liaison with development partners to be agreed by the Council which will be adopted as a Supplementary Planning Document. Planning permission will be granted for proposals which are in accordance with the design principles set out in the Strategic Design Code and they must demonstrate conformity with the masterplanning principles set out in the Strategic Site Allocations policies. Applications for planning consent should be accompanied by a Design Statement which clearly sets out how the relevant sections of the Code have been complied with.</p> <p>The Strategic Design Code will include:</p> <ul style="list-style-type: none"> <li>• The general design principles and standards that will apply across the whole development</li> <li>• The design principles for each village area and how they will be differentiated from each other (e.g. character areas, densities, block and building typologies, frontages, landscaping, and parking)</li> <li>• The design and performance specifications for the main circulation routes through the site (including the design of the de-trunked M181, Strategic Route and primary street, secondary streets, tertiary streets, pedestrian and cycleways) to achieve a cohesive and holistic design</li> <li>• Illustrative material to show how the built form and streets should relate to the main green spaces</li> </ul>	<p>This policy refers to the requirement of a design code prior to approval of planning permission. As such, there are no pathways of impact within this policy that would lead to likely significant effects on the Humber Estuary European designated sites.</p>

Policy Reference	Policy text or summary	HRA Screening Outcome
	<p>and linkages (including Brumby Common Lane and Warping Drain), parks and lakes (including setbacks, property boundaries, access and landscaping)</p> <ul style="list-style-type: none"> <li>• Indicative cross sections/elevations to show how structural landscaping and planting should respond to the sites boundaries and interfaces/edges and how this relates to adjacent built form</li> <li>• Illustrative cross sections/plans to show how landscaping, access, footpaths, boundaries, frontages, seating, lighting, ecological enhancement and drainage will relate to the lake areas</li> <li>• Plans which identify the existing landscape features in each village which will need to be retained, such as ditches, hedgerows and trees and illustrations of how they might be successfully incorporated into the overall design.</li> <li>• Measures to demonstrate how opportunities to maximise resource efficiency and climate change adaptation in the design of the development will be achieved through external, passive means, such as landscaping, orientation, massing, and external building features.</li> </ul> <p>The Code will be subject to review and revision throughout the course of the development to ensure that it remains up to date and relevant. The first review will be undertaken upon the completion of the first phase of the development.</p>	
D4: Area Masterplanning	<p>Prior to the approval of any planning application within any of the AAP strategic site allocations, an area masterplan framework shall be approved for the relevant site allocation policy area.</p>	<p>This policy sets out the required components within an area masterplan with the AAP. As such, there are no pathways of impact within this policy that would lead to likely significant effects on the Humber Estuary European</p>

<b>Policy Reference</b>	<b>Policy text or summary</b>	<b>HRA Screening Outcome</b>
	<p>The area masterplan should build on and develop the concept framework and design principles, development requirements and masterplanning principles set out in the Area Action Plan. The area masterplan shall be a two-dimensional spatial plan and include as a minimum the following requirements.</p> <p>Specific details are set out.</p>	designated sites.