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HRA of the Single Issue Review Proposed Submission of Forest Heath Core Strategy Policy CS7 Overall Housing Provision and Distribution (Regulation 19 stage)

Prepared by LUC
January 2017

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1 Introduction

- 1.1 LUC has been contracted by AECOM on behalf of Forest Heath District Council to carry out the Habitats Regulations Assessment (HRA) of the Single Issue Review (SIR) of Core Strategy Policy CS7 Overall Housing Provision and Distribution. This report documents the results of the HRA of the Proposed Submission version of the SIR document at the Regulation 19 consultation stage.

Background to the Forest Heath SIR and SALP

- 1.2 The Core Strategy is the strategic document which provides an overall vision and framework for the growth of Forest Heath, underpinned by the principle of sustainability. It was adopted in May 2010 and is part of Forest Heath's Development Plan, a suite of planning documents that will (once fully adopted) replace the council's Local Plan (1995) saved policies, in accordance with the National Planning Policy Framework (NPPF (2012)).
- 1.3 The SIR of Core Strategy Policy CS7 was prompted by a successful High Court challenge. This resulted in the majority of Policy CS7 and elements of CS1, CS13 and para 3.12.2 being revoked from the Adopted Core Strategy. The SIR will replace Core Strategy Policy CS7 in its entirety and as such no changes to Policies CS1, CS13 or paragraph 3.12.1 are required.
- 1.4 When considered against national policy, the remaining parts of the 2010 Core Strategy still provide an appropriate strategy for the district to the 2031 and are therefore not part of this review of the Local Plan.
- 1.5 The SIR is being prepared in parallel with the Site Allocations Local Plan (SALP). Once the SIR and SALP are adopted, Forest Heath's Development Plan will therefore comprise the documents set out in Figure 1.1.

Figure 1.1 Forest Heath's Development Plan



The need for HRA

- 1.6 The requirement to undertake HRA of development plans was confirmed by the amendments to the "Habitats Regulations" published for England and Wales (1) and subsequently updated (2). Therefore, when preparing the SIR, the Council is required by law to carry out an HRA.
- 1.7 HRA refers to the assessment of the potential effects of a development plan on one or more European sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs):
- SPAs are classified under the European Council Directive 'on the conservation of wild birds' (79/409/EEC; 'Birds Directive') for the protection of wild birds and their habitats (including particularly rare and vulnerable species listed in Annex 1 of the Birds Directive, and migratory species).
 - SACs are designated under the Habitats Directive and target particular habitats (Annex 1) and/or species (Annex II) identified as being of European importance.
- 1.8 Potential SPAs (pSPAs)¹, candidate SACs (cSACs)², Sites of Community Importance (SCIs)³ and Ramsar sites should also be included in the assessment.
- Ramsar sites support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971).
- 1.9 For ease of reference during this HRA, these designations are collectively referred to as 'European sites' (despite Ramsar designations being at the international level).

¹ Potential SPAs are sites that have been approved by Government and are currently in the process of being classified as SPAs.

² Candidate SACs are sites that have been submitted to the European Commission, but not yet formally adopted.

³ SCIs are sites that have been adopted by the European Commission but not yet formally designated as SACs by the Government.

- 1.10 The HRA of development plans is undertaken in stages (as described below) and should conclude whether or not a proposal would adversely affect the integrity of the European site in question.
- 1.11 The HRA should be undertaken by the 'competent authority', in this case Forest Heath District Council, and LUC has been commissioned by AECOM to do this on the Council's behalf. The HRA also requires close working with Natural England as the statutory nature conservation body⁴ in order to obtain the necessary information, agree the process, outcomes and mitigation proposals. The Environment Agency, while not a statutory consultee for the HRA, is also in a strong position to provide advice and information throughout the process as it is required to undertake HRA for its existing licences and future licensing of activities.

Stages of HRA

Requirements of the Habitats Regulations

- 1.12 In assessing the effects of a Local Plan in accordance with Regulation 102 of the Conservation of Habitats and Species Regulations, there are potentially two tests to be applied by the competent authority: a 'Significance Test', followed if necessary by an Appropriate Assessment which would inform the 'Integrity Test'. The relevant sequence of questions is as follows:
- 1.13 Step 1: Under Reg. 102(1)(b), consider whether the plan is directly connected with or necessary to the management of the sites. If not, as is the case for the Forest Heath SIR and SALP, proceed to Step 2.
- 1.14 Step 2: Under Reg. 102(1)(a) consider whether the plan is likely to have a significant effect on a European site, either alone or in combination with other plans or projects (the 'Significance Test'). If yes, proceed to Step 3.
[Steps 1 and 2 are undertaken as part of Stage 1: HRA Screening in Table 1.1.]
- 1.15 Step 3: Under Reg. 102(1), make an Appropriate Assessment of the implications for the European site in view of its current conservation objectives (the 'Integrity Test'). In so doing, it is mandatory under Reg. 102(2) to consult Natural England, and optional under Reg. 102(3) to take the opinion of the general public.
[This step is undertaken during Stage 2: Appropriate Assessment shown in Table 1.1.]
- 1.16 Step 4: In accordance with Reg. 102(4), but subject to Reg. 103, give effect to the land use plan only after having ascertained that the plan would not adversely affect the integrity of a European site.
- 1.17 Step 5: Under Reg. 103, if Step 4 is unable to rule out adverse effects on the integrity of a European site and no alternative solutions exist then the competent authority may nevertheless agree to the plan or project if it must be carried out for 'imperative reasons of overriding public interest' (IROPI).

Typical stages

- 1.18 Table 1.1 summarises the stages and associated tasks and outcomes typically involved in carrying out a full HRA, based on various guidance documents (3) (4) (5).

⁴ Regulation 5 of the Habitats Regulations 2010.

Table 1.1 Stages of HRA

Stage	Task	Outcome
Stage 1: HRA Screening	Description of the development plan. Identification of potentially affected European sites and factors contributing to their integrity. Review of other plans and projects. Assessment of likely significant effects of the development plan alone or in combination with other plans and projects.	Where effects are unlikely, prepare a 'finding of no significant effect report'. Where effects judged likely, or lack of information to prove otherwise, proceed to Stage 2.
Stage 2: Appropriate Assessment (where Stage 1 does not rule out likely significant effects)	Information gathering (development plan and European Sites). Impact prediction. Evaluation of development plan impacts in view of conservation objectives. Where impacts are considered to affect qualifying features, identify how these effects will be avoided through avoidance or mitigation.	Appropriate assessment report describing the plan, European site baseline conditions, the adverse effects of the plan on the European site, how these effects will be avoided through avoidance or mitigation, including the mechanisms and timescale for these mitigation measures. If effects remain after all alternatives and mitigation measures have been considered proceed to Stage 3.
Stage 3: Assessment where no alternatives exist and adverse impacts remain taking into account mitigation	Identify 'imperative reasons of overriding public interest' (IROPI). Demonstrate no alternatives exist. Identify potential compensatory measures.	This stage should be avoided if at all possible. The test of IROPI and the requirements for compensation are extremely onerous.

- 1.19 It is normally anticipated that an emphasis on Stages 1 and 2 of this process will, through a series of iterations, help ensure that potential adverse effects are identified and eliminated through the inclusion of mitigation measures designed to avoid, reduce or abate effects. The need to consider alternatives could imply more onerous changes to a plan document. It is generally understood that so called 'imperative reasons of overriding public interest' (IROPI) are likely to be justified only very occasionally and would involve engagement with both the Government and European Commission.

HRA work carried out previously

- 1.20 The issues surrounding the potential effects of development in Forest Heath District and neighbouring districts on European sites have been heavily studied and these studies have informed an extensive body of previous HRA work including the HRA of the Forest Heath Core Strategy (6). That HRA was subject to extensive consultation with Natural England and other stakeholders (notably the RSPB) in order to reach agreement on a suitable approach. We have taken this previous body of work as the starting point in formulating the assumptions to be made in carrying out the HRA of the SIR. We have also reviewed further relevant information that has been published since that HRA was carried out and considered, in consultation with Natural England, whether this suggests a need to amend the previously adopted approach.
- 1.21 HRA Screening reports were produced to accompany the August-October 2015 consultation on the 'Issues and Options' version of the SIR and the April-July 2016 consultation on the 'Preferred Options'. A number of consultation comments were received on the HRA during each of these stages of consultation and these are documented in Appendix 3, along with LUC's responses to them.

Structure of the HRA report

- 1.22 This chapter has introduced the background to the production of the Forest Heath SIR and the requirement to undertake HRA. The remainder of the report is structured as follows:
- **Chapter 2: The Single Issue Review (SIR) of Core Strategy Policy CS7** summarises the content of the SIR Proposed Submission document which is the subject of this HRA report.
 - **Chapter 3: HRA Screening methodology** outlines the approach to identifying 'likely significant effects', identifies the European sites potentially affected by the SIR (detailed information is provided in Appendix 2) and considers the other plans and projects with which the SIR could act in combination to have a significant effect on a European site.
 - **Chapter 4: Information used and assumptions made in the HRA** identifies the potential effects which the SIR could have on European sites, summarises information relevant to assessing each of them and states the assumptions made in carrying out the HRA.
 - **Chapter 5: HRA Screening of overall housing provision** assesses the potential for the total amount of housing provided by SIR Policy CS7 to have likely significant effects on European sites.
 - **Chapter 6: HRA Screening of broad distribution of housing** assesses the potential for the broad distribution of housing provided by SIR Policy CS7 to have likely significant effects on European sites.
 - **Chapter 7: Appropriate Assessment** considers whether any of the potential likely significant effects identified in the HRA Screening could have an adverse effect on the integrity of a European site, either alone or in-combination with other plans or projects.
 - **Chapter 8: Conclusion and next steps** sets out the overall conclusion of the HRA and describes the upcoming stage of consultation on the Proposed Submission SIR and accompanying HRA Report.

2 The Single Issue Review (SIR) of Core Strategy Policy CS7

- 2.1 The Proposed Submission (Regulation 19 consultation) version of the SIR that is the subject of this HRA Report contains a single policy, CS7 Overall housing provision and distribution, which will replace the corresponding policy in the adopted Core Strategy. The policy is reproduced in full below for ease of reference.

Policy CS7 Overall housing provision and distribution Provision To meet Forest Heath's full and objectively assessed need for housing, provision is made for at least 6800 new dwellings and associated infrastructure to be delivered in the period 2011 to 2031. Broad Distribution Development will be brought forward in line with the broad distribution of housing as set out below:			
Settlement	Existing completions and commitments (2011-2016)	Additional provision	Totals
Brandon	59	71	130
Mildenhall	185	1412	1597
Newmarket	291	321	612
Lakenheath	95	828	923
Red Lodge	699	1129	1828
Primary Villages	953	454	1407
Other*	155	0	155
Windfall		225 (25 a year x 9 years)	225
TOTALS	2437	4440	6877
*Other includes completions and commitments within rural areas, secondary villages and small settlements. To deliver the broad distribution outlined above, sites will be identified through the Site Allocations Local Plan and/or neighbourhood plans.			

3 HRA Screening methodology

- 3.1 The Habitats Regulations do not prescribe a particular methodology for carrying out the appraisal of a plan, or how to report the outcome. In the continuing absence of finalised Government guidance, the former DCLG's 2006 consultation paper on Appropriate Assessment of Plans (4) remains the principal official guidance. We have also had regard to other guidance of relevance to the HRA of land use plans (3) (7) (8) (9) (10) (11).
- 3.2 HRA Screening of the SIR Proposed Submission document has been undertaken in line with this and seeks to meet the requirements of the Habitats Regulations.

Assessment of 'likely significant effects' of the SIR

- 3.3 As required under Regulation 102 of the Conservation of Habitats and Species Regulations 2010⁵ an assessment has been undertaken of the 'likely significant effects' of the SIR Proposed Submission document.
- 3.4 The assumptions made and information used during the HRA Screening in reaching conclusions about likely significant effects on European sites are set out in Chapter 4.
- 3.5 The tasks carried out as part of the HRA Screening are summarised in Table 1.1 (Stage 1). They are described more fully along with their results in Chapter 5 (for the SIR overall housing provision) and Chapter 6 (for the SIR broad distribution of housing). The following colour scheme was used to record the potential for likely significant effects, prior to mitigation:

Amber	The potential for likely significant effects from the policy provision cannot be ruled out – consider existing mitigation and proceed to Appropriate Assessment if likely significant effects remain
Green	Likely significant effects from the policy provision can be ruled out – consideration of existing mitigation and Appropriate Assessment not required

- 3.6 When carrying out the HRA Screening, particular consideration was given to the possible pathways through which effects may be transmitted to features contributing to the integrity of the European sites.

Interpretation of 'likely significant effect'

- 3.7 Relevant case law helps to interpret when effects should be considered as a 'likely significant effect', when carrying out HRA of a land use plan.
- 3.8 In the Waddenzee case⁶, the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats Directive (transposed by Reg. 102 in the Habitats Regulations), including that:
- an effect should be considered 'likely', "*if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site*" (para 44);
 - an effect should be considered 'significant', "*if it undermines the conservation objectives*" (para 48); and
 - where a plan or project has an effect on a site "*but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned*" (para 47).

⁵ SI No. 2010/490

⁶ ECJ Case C-127/02 "Waddenzee" Jan 2004.

- 3.9 Another opinion delivered to the Court of Justice of the European Union⁷ commented that:
- "The requirement that an effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on the site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."*
- 3.10 This opinion (the 'Sweetman' case) therefore allows for the authorisation of plans and projects whose possible effects, alone or in combination, can be considered 'trivial' or *de minimis*; referring to such cases as those "that have no appreciable effect on the site". In practice such effects could be screened out as having no likely significant effect; they would be 'insignificant'.
- 3.11 Based on the above, a risk-based approach involving the application of the precautionary principle was adopted in the assessment, such that a conclusion of 'no likely significant effect' was only reached where it was considered unlikely, based on current knowledge and the information available, that a SIR policy provision would have a significant effect on a European site.

European sites

- 3.12 This section identifies and describes the European sites that could be affected by the SIR.
- 3.13 It is common practice in HRA screening to define a buffer around the plan area as a starting point to identifying European sites to be examined and this approach has been accepted by Natural England elsewhere. This reflects the fact that development-related activities such as water abstraction, waste water discharge, air pollution from traffic, and increased recreation can have effects well beyond the Plan area. Some of these European sites may then be scoped out or more distant ones added, depending on the pathways that exist for potentially significant effects to occur.
- 3.14 A precautionary buffer distance of 20 km was used to reflect evidence from studies in other parts of the country that coastal sites or large tracts of semi-natural habitat can attract a relatively high proportion of residents from up to 20 km away from the site. This encompasses seven SACs, two SPAs, and four Ramsar sites that lie entirely or partly within 20 km of the Forest Heath District boundary, as follows:
- SACs: Breckland, Devil's Dyke, Rex Graham Reserve, Fenland, Norfolk Valley Fens, Ouse Washes, Waveney and Little Ouse Valley Fens;
 - SPAs: Breckland, Ouse Washes; and
 - Ramsar sites: Chippenham Fen, Ouse Washes, Redgrave and South Lopham Fens, Wicken Fen.
- 3.15 The locations of these European sites in relation to the Forest Heath District boundary are shown in Figure 3.1.
- 3.16 The HRA also considers the potential for effects on the three additional, more distant European sites in the area of The Wash since the District's main rivers drain into them and their qualifying features include ones which are sensitive to deterioration in water quality.
- 3.17 The list of sites within the 20 km buffer has been further adjusted by screening out Waveney and Little Ouse Valley Fens SAC. The three sites which make up this SAC are located right on the eastern edge of the 20 km buffer. Overall the sites are unlikely to attract significantly increased numbers of visitors due to their location. They are upstream of any development which will occur in Forest Heath and it is understood that water abstraction and wastewater discharges for developments in Forest Heath will not affect this European site.
- 3.18 Redgrave and South Lopham Fens Ramsar site was also screened out at earlier stages of HRA. This site overlies part of the Waveney and Little Ouse Valley Fens SAC and lies on the eastern edge of the 20 km buffer. Although the site has a visitor centre and is relatively well

⁷ Advocate General's Opinion to CJEU in Case C-258/11 *Sweetman and others v An Bord Pleanála* 22nd Nov 2012.

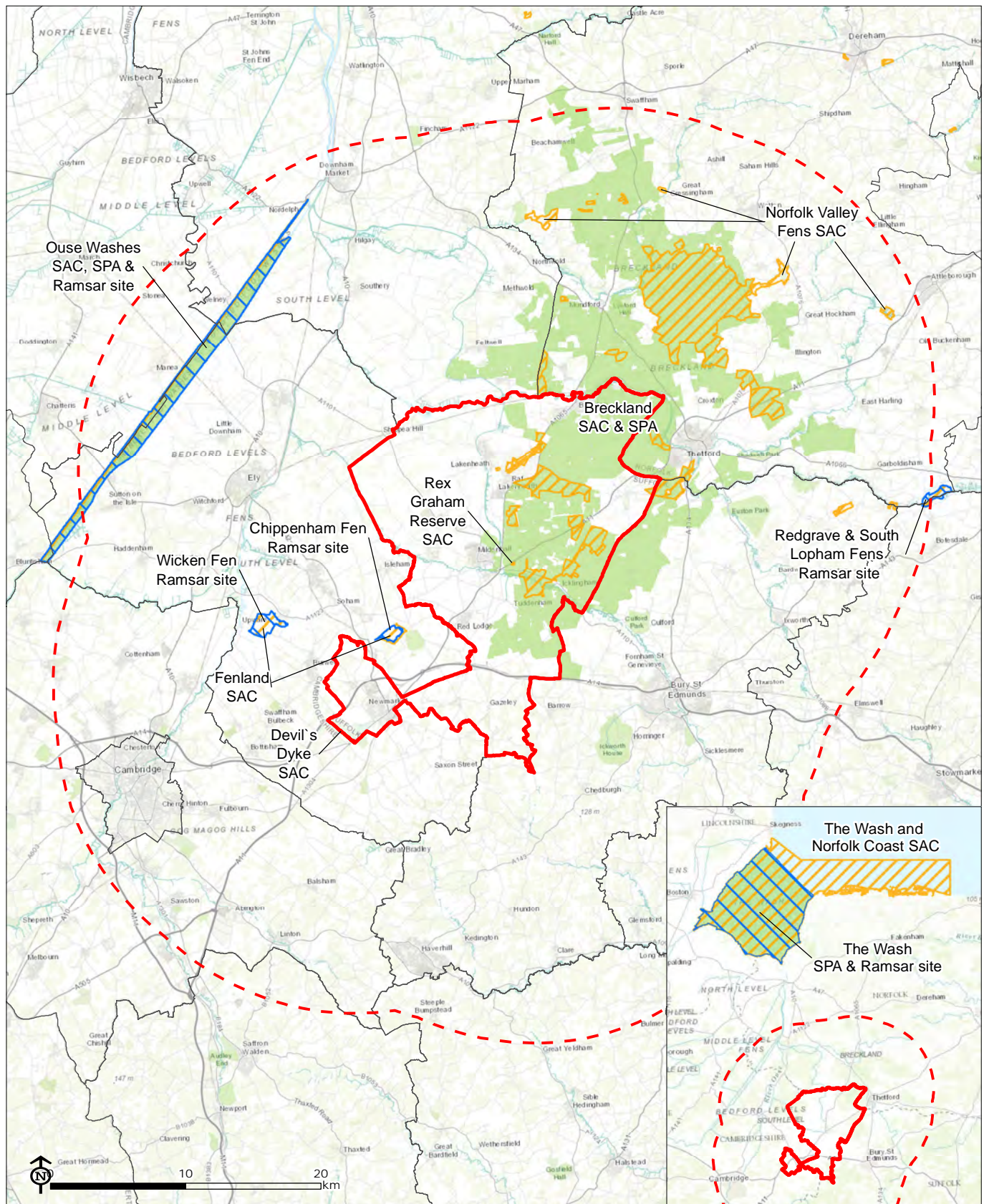
known, it is unlikely that development in Forest Heath will result in significantly increased visitor numbers due to the site's distance from the District, and the existence of alternative recreational areas closer to or within Forest Heath District, such as large parts of the extensive Thetford Forest. Whilst the SAC is upstream of Forest Heath it was screened in for the HRA of the SIR because it was identified by the latest Forest Heath Water Cycle Strategy as being potentially impacted by water quantity or water quality (including sewer flooding) issues.

3.19 The HRA of the SIR therefore considered the European sites set out in Table 3.1.

Table 3.1 European sites scoped into the HRA

SAC	SPA	Ramsar site
Sites lying wholly or partly within Forest Heath District		
Breckland Devil's Dyke Rex Graham Reserve	Breckland	-
Sites lying outside Forest Heath District but wholly or partly within 20 km of its boundary		
Fenland Norfolk Valley Fens Ouse Washes	Ouse Washes	Chippenham Fen Ouse Washes Redgrave and South Lopham Fens Wicken Fen
Sites lying entirely beyond 20 km of the Forest Heath District boundary but scoped into HRA due to hydrological connection		
The Wash and North Norfolk Coast	The Wash	The Wash

3.20 Appropriate information to inform HRA Screening of the scoped-in European sites is set out in Appendix 2. This covers a narrative description of the site, a summary of the reasons for its designation as a European site, notes on its current condition, threats and reasons for adverse conditions, and conservation objectives.



- Forest Heath District Boundary
- 20km Buffer
- District Boundary
- Ramsar Site
- SAC
- SPA

Forest Heath Local Plan
HRA

Figure 3.1
European Sites Scoped
into the HRA

Source: JNCC, Natural England



Map Scale @ A4: 1:400,000

Review of other plans and projects for 'in combination' effects

Regulatory requirements and guidance

- 3.21 Regulation 102 of the Habitats Regulations 2010 (2) requires an Appropriate Assessment of "any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects".
- 3.22 Natural England guidance on this requirement is as follows:
- "The alone or in combination requirement has been included in the Directive and Regulations in order to make sure that the effects of numerous small activities, which alone would not result in a significant effect, are assessed to determine whether their combined effect would be significant, and therefore require more detailed assessment. It is only the effects of those plans and projects that are not themselves significant alone which are added into an in combination assessment. The assessment should only include those that genuinely result in a combined effect, which impairs the ability of an interest feature to meet its conservation objectives.*
- In combination assessment should include all plans or projects that have consent or authorisation but are not yet complete, and those that are the subject of an application for consent or authorisation, but are not yet determined. The following list outlines the types of plans and projects that should be considered for an in combination assessment:*
- the incomplete or non-implemented parts of plans or projects that have already commenced;*
 - plans or projects given consent or given effect but not yet started;*
 - plans or projects currently subject to an application for consent or proposed to be given effect;*
 - projects that are the subject of an outstanding appeal;*
 - ongoing plans or projects that are the subject of regular review;*
 - any draft plans being prepared by any public body; and*
 - any proposed plans or projects published for consultation prior to application."*
- 3.23 HRA guidance (11) states that the testing of a plan's effects in combination with those of other plans and projects need only consider those effects (of the plan being assessed and those of other plans or projects) which, when acting alone rather than in combination, have been assessed as minor. There is no need to consider other plans and projects, or components thereof, that could not have any effect on a European site. There is also no need to consider any plans or projects that have already been assessed as likely to have a significant effect alone and therefore flagged up for Appropriate Assessment and, if necessary, for action to avoid or mitigate them. This in combination test is, for example, relevant to plans which would have some potential effect on a European site, but that effect alone would not be likely to be significant, and there are other plans or projects that would add to the plan's effects, either by making them more likely, or more significant, or both.

Approach adopted in the HRA of the SIR

- 3.24 The principles described above have been applied by first identifying relevant other plans for the in combination assessment. A large number of plan and strategy documents could potentially be considered. We focussed our attention on the SALP being developed in parallel with the SIR plus county and district level plans which provide for development in Forest Heath and adjacent districts, and reviewed the findings of any associated HRA work for these plans, where available.
- 3.25 To identify other projects which could result in a significant combined effect with the SIR, we reviewed the National Infrastructure Planning website. In addition, the Council was asked whether it was aware of any such projects. This revealed a number of projects which had not yet been developed but for which planning consent had been sought from FHDC or in relation to which the Council has published an EIA scoping request for consultation. These are not included

as allocations in the SALP but were judged large enough to present a credible risk that they might have significant effects in combination with the SIR and SALP. The plans and projects reviewed are set out in Appendix 1 with the exception of the emerging SALP, the provisions of which are summarised in the separate HRA report being produced in parallel with this one and which have been referenced where relevant throughout the HRA of the SIR.

- 3.26 The review of other relevant projects proceeded as follows.
- 3.27 Where project level HRA Screening has been unable to rule out likely significant effects, then the project cannot proceed in its current form until Appropriate Assessment rules out adverse effects on integrity. At that point, the Appropriate Assessment will need to consider the potential for the project to have effects in combination with other plans and projects, including the SIR and SALP.
- 3.28 Where project level HRA Screening has been carried out and likely significant effects have been ruled out or project level Appropriate Assessment has been carried out and adverse effects on integrity have been ruled out, a check was made to determine whether any effects were identified by the project level HRA which were judged to be minor but which could combine with minor effects of the SIR and SALP and other plans and projects considered in the in combination assessment to become significant.
- 3.29 Where a project has not yet advanced sufficiently through the planning process for project level HRA Screening to have been carried out, there is insufficient publicly available information to consider it in the in combination assessment. Once the project advances to a stage where project level HRA Screening is carried out, that HRA will need to consider the potential for project to have effects in combination with other plans and projects, including the SIR and SALP.
- 3.30 Where planning consent had been sought but the Council determined that project level HRA Screening was not required, it was assumed that the project would not contribute to in combination effects.

Findings of review of other plans and projects

- 3.31 The review of other relevant plans (see Appendix 1) revealed a number of potential effects on the European sites scoped into the HRA of the SIR, for example recreation pressure from the development provided for by Breckland Core Strategy on Breckland SAC/SPA. However, in each case the HRA of that plan was able to reach a conclusion of no likely significant effects after taking into account mitigation.

No residual effects of other plans which required consideration in combination with those of the SIR were identified since the iterative operation of the HRA process alongside the plan-making process ensured that each plan mitigated any additional pressure it could place on European sites.
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- 3.32 The review of other relevant projects (see Appendix 1) revealed some potential residual minor effects on the stone curlew population of Breckland SPA from development proposals at Lakenheath. However, as discussed in Appendix 1, Natural England has already ruled out the possibility of significant in combination effects on Breckland SPA from the development proposed by the SIR and SALP and those listed within the in combination assessment.

Significant effects in combination with other projects were therefore ruled out.
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4 Information used and assumptions made in the HRA

Potential effects

- 4.1 Based on an examination of the designated features of the European sites scoped into this HRA and the nature of activities provided for by the SIR, the following types of potential effect on European sites were considered:
- direct loss or physical damage due to construction;
 - disturbance and other urban edge effects from construction or occupation of buildings;
 - disturbance from construction or operation of roads;
 - recreational pressure;
 - water quantity;
 - water quality; and
 - air quality.
- 4.2 This chapter summarises information relevant to each of these potential effects, drawing on the HRA work previously undertaken in the District as well as more recent evidence. Based on this evidence, the approach taken and assumptions made in carrying out the HRA Screening of the SIR (prior to consideration of mitigation) are then described. The approach to the Appropriate Assessment stage of the HRA is described alongside the results of that assessment in Chapter 7.
- 4.3 As explained under each type of effect, the potential for some types of effect is most appropriately assessed by reference to the total amount of housing development being proposed, as set out in the 'Total housing provision' section of the SIR. Other types of effect, are more appropriately assessed by reference to the amount of development proposed at broad locations (as set out in the 'Housing distribution options' section of the SIR) or by reference to the specific development sites being allocated (as set out in the HRA of the SALP document being prepared and consulted on in parallel with the SIR). In some cases, although the potential effect was most appropriately assessed at a detailed scale, it was necessary to rule out the possibility that a likely significant effect could not be avoided under any conceivable spatial distribution of the housing provision, leading to assessment of the effect at more than one scale.
- 4.4 Table 4.1 summarises the scale/ level in the planning process at which each of the types of potential effect listed above has been assessed. If detailed examination of evidence during HRA of the SIR revealed any issues specific to individual sites rather than the broad distribution of sites, these were flagged for inclusion in the HRA of the SALP on an exception basis.

Table 4.1 Scale at which each type of potential effect was assessed

Potential effect	HRA of SIR overall housing provision	HRA of SIR Broad distribution of housing	HRA of individual site allocations in the SALP
Direct loss or physical damage due to construction			✓
Disturbance and other urban edge effects from construction or occupation of buildings		✓	✓
Disturbance from construction or operation of roads		✓	
Recreation pressure	✓	✓	✓
Water quantity		✓	
Water quality		✓	
Air quality		✓	

Direct loss or physical damage due to construction

- 4.5 Direct loss of or physical damage to designated habitats, or to habitats on which designated species rely, could result from the construction of new housing, employment space and so on. Construction could also cause direct mortality of designated species.

Approach to HRA Screening of Forest Heath SIR

- 4.6 Potential effects depend on the exact location of development proposals and were therefore most appropriately assessed via HRA of the site-specific allocations set out in the SALP.

Disturbance and other urban edge effects from construction or occupation of buildings

- 4.7 The construction or occupation of new buildings provided for by the SIR could result in adverse effects on sensitive, designated species due to increases in noise and vibration or light pollution, the visual presence of buildings and people within the development boundary, or increased numbers of pets and other predators associated with urban areas.
- 4.8 Other types of potential effect on designated species and habitats associated with increased public access were separately considered within the 'recreation pressure' category below.

European sites potentially affected

- 4.9 The European sites potentially affected are:
- Breckland SPA.
- 4.10 Disturbance and other urban edge effects from construction or occupation of buildings operate over relatively short distances. Based on a review of the designated features of the scoped-in European sites and the locations of these sites in relation to Forest Heath District, the potential for disturbance and other urban edge effects from construction or occupation of buildings within the District only exists in relation to the designated bird species of Breckland SPA.

Relevant information

- 4.11 Considering the particular sensitivity of Breckland SPA's designated bird species to these types of urban edge effects, correlative studies of stone curlews (12), nightjars (13) (14) (15) (16) and woodlarks (17) have found lower densities of these species in areas close to housing or surrounded by high densities of housing. This avoidance is likely to be due to a range of factors, with individual ones difficult to tease apart. For example, although higher levels of recreational access may lead to harm from disturbance or increased fire occurrence, the avoidance of housing by stone curlews has been clearly demonstrated on arable land where there is limited public access (12). In addition, the large distances over which housing has been shown to have an effect by this research are such that increased public access and fire occurrence seem implausible explanations in isolation; these species may simply show a behavioural response to avoiding the built environment.
- 4.12 Analysis of the pattern of avoidance of housing by stone curlew on arable land suggests that the impact of housing on nest densities is negligible at a distance of 2.5 km from housing and that housing at 1 km has half the impact of housing immediately adjacent to potential nesting habitat (12).
- 4.13 Although the effect of buildings on stone curlew identified by research is from residential properties as opposed to commercial or other building types, that research advises caution in relation to non-residential development types due to the small sample size of these types of buildings in the study and difficulties with reliably classifying them (18).
- 4.14 Research has failed to detect any evidence that screening (such as by shelter belts or landscaping) or reduced lighting levels around buildings might reduce avoidance of built development by stone curlew or allow the distance at which adverse effects occur to be reduced. Many fields do have existing shelterbelts, and the avoidance of housing is still clear across suitable arable land, suggesting that screening will not work as mitigation (12) (18).
- 4.15 In relation to predation effects, evidence shows that pet cats can roam up to 1.5 km at night (19) (20). As well as pets, research has shown that heathland close to urban areas can have higher densities of mammalian predators such as foxes (21) and that there is an increase in the numbers of crows and magpies on sites with greater human activity (22).
- 4.16 For nightjars there is also evidence of avoidance of housing but the sites where this has been studied tend to have lots of housing close by and lots of houses further away, making it virtually impossible to determine the distance to which housing has an effect (16). In relation to avoidance of development effects on woodlark or nightjar (particularly in relation to cat predation), a 400 m 'no build zone' has been used to mitigate the effects of housing on heathland birds of The Dorset heaths and Thames Basin Heaths SPAs. The 400 m distance was chosen to minimise additional cat predation and visitor pressure on the heathlands adjacent to development.
- 4.17 The elements of this body of research available at the time of the HRA of the Core Strategy led, with the agreement of Natural England, to the designation in Core Strategy Policy CS2 of development 'constraint zones' designed to protect Breckland SPA, as shown in the following boxed extract from the Core Strategy.

Core Strategy Policy CS2 Natural Environment (extract)

New built development will be restricted within 1,500m of components of the Breckland SPA designated for stone curlew. Proposals for development in these areas will require a project level Habitat Regulations Assessment (HRA) (see Figure 3). Development which is likely to lead to an adverse effect on the integrity of the SPA will not be allowed.

Where new development is proposed within 400m of components of the Breckland SPA designated for woodlark or nightjar a project level Habitats Regulation Assessment (HRA) will be required (see Figure 3). Development which is likely to lead to an adverse effect on the integrity of the SPA will not be allowed.

New road infrastructure or road improvements will not be allowed within 200m of sites designated as SACs in order to protect the qualifying features of these sites (see Figure 3).

New development will also be restricted within 1,500m of any 1km grid squares which has supported 5 or more nesting attempts by stone curlew since 1995. Proposals for development within these areas will require a project level HRA (see Figure 3). Development which is likely to lead to an adverse effect on the integrity of the SPA will not be allowed.

Approach to HRA Screening of Forest Heath SIR

- 4.18 Prior to consideration of mitigation, the HRA Screening assumed that it was not possible to rule out likely significant effects if it appeared unlikely that it would be possible to avoid development which:
- overlaps, or is within 1,500 m of, SSSI components of Breckland SPA designated for stone curlew; or
 - overlaps, or is within 1,500 m of a 1 km grid square with ≥ 5 stone curlew nesting attempts during 2011-2015 associated with Breckland SPA; or
 - overlaps, or is within 400 m of, SSSI components of Breckland SPA designated for woodlark or nightjar.
- 4.19 These three screening distances for disturbance and other urban effects are shown in Figure 4.1⁸ and are consistent with the distances used to define the constraint zones in the adopted Core Strategy which have been agreed by Natural England. In relation to stone curlew nesting attempts areas, the HRA of the SIR relies on updated data covering the period 2011-2015 rather than the 1995-2006 data that is referred to in Core Strategy policy CS2 and which informed the HRA of the Core Strategy and of the SIR prior to the current stage of plan making. This data better reflects the areas of the SPA used by stone curlews and the areas outside the SPA that are also important. This is consistent with informal advice from Natural England and its comments on the earlier HRA of the Preferred Options SIR and SALP.
- 4.20 Potential effects are generally more appropriately assessed via HRA of the site-specific allocations set out in the SALP. It is possible, however, that some strategic housing distributions specified by the SIR would be unlikely to be able to avoid development within the Breckland SPA buffer areas above, regardless of the specific sites allocated at each identified settlement. The HRA screening of the SIR housing distribution options therefore examines this possibility.

Disturbance from construction or operation of roads

- 4.21 The development provided for by the SIR could result in the need for construction of new roads, improvements to existing roads or increased traffic and congestion on existing roads. This could, in turn, result in adverse effects on sensitive, designated species due to increases in noise and vibration, light pollution, or the visual presence of roads and traffic.
- 4.22 The potential effects of increased road traffic on air quality were dealt with in a separate section below.
- 4.23 The potential for direct damage from road construction was not considered in the HRA of the SIR as it was addressed via HRA of the Suffolk Local Transport Plan (for major schemes); via HRA of the SALP in relation to direct loss or physical damage due to construction (for road development within allocated development site boundaries), and via project level HRA as required (for any other road development).

European sites potentially affected

- 4.24 The European sites potentially affected are:
- Breckland SPA.

⁸ Figure 4.1 only shows those parts of the stone curlew nesting attempts buffer which lie outside and therefore extend the boundary of the 1,500 m buffer around components of Breckland SPA designated stone curlew in order to protect nest sites

- 4.25 Based on a review of the designated features of the scoped-in European sites, the documented pressures and threats facing them and the locations of these sites in relation to Forest Heath District, the potential for disturbance from construction or operation of roads only exists in relation to the designated bird species of Breckland SPA.

Relevant information

- 4.26 A clear avoidance by stone curlews of otherwise suitable habitat adjacent to major roads has been demonstrated in a number of studies (23) (24) (12). These effects exist up to a distance of at least 1,000 m from trunk roads and possibly up to 2,000 m.
- 4.27 More recent work (18) updated and expanded this evidence. The more recent analysis of stone curlew data in and around Breckland SPA shows that, regardless of the amount of nearby buildings, the nest density was always lowest in the subset of areas within 0.5 km of the nearest trunk road (A11, A14 or A47) and highest in the areas furthest from the nearest trunk road. No consistent pattern was found for non-trunk roads. The overarching conclusion of the study authors is that their analysis provides strong support for the continuation in planning policy of a 1,500 m development constraint zone around areas capable of supporting stone curlew, although this primarily appears to be targeted at constraining potential building rather than highway development.

Approach to HRA Screening of Forest Heath SIR

- 4.28 Potential disturbance effects from construction or operation of roads were judged to be most appropriately assessed via HRA of the housing distribution options set out in the SIR since the need for and locations of significant additions to road network capacity require consideration of the broad pattern of development across the District. It was judged inappropriate in an HRA of a Local Plan to attempt to separately assess the potential disturbance effects of new access roads serving individual developments from the wider assessment for 'disturbance and other urban edge effects' of the housing distribution options of the SIR and of individual site allocations of the SALP (see separate HRA report). Any project-specific exceptions to this would be assessed via project level HRA, if required.
- 4.29 The SIR does not propose road infrastructure schemes; these would come forward under the Suffolk Local Transport Plan (LTP) which is subject to its own HRA. However, the scale and broad locations for housing provided by the SIR may increase the need for road infrastructure development. The HRA therefore assumed that it is not possible to rule out likely significant effects on Breckland SPA if development provided for by the SIR would result in the need for any new road infrastructure or road improvements to increase capacity which:
- overlaps, or is within 1,500 m of, SSSI components of Breckland SPA designated for stone curlew; or
 - overlaps, or is within 1,500 m of a 1 km grid square with ≥ 5 stone curlew nesting attempts during 2011-2015 associated with Breckland SPA.
- 4.30 FHDC's Transport Study (25) (26) was used to identify locations where the planned growth in the District would be likely to create a need for new road infrastructure or road improvements to increase capacity.

Recreation pressure

- 4.31 Housing development could result in increased numbers of visitors to European sites within or close to the District. This could result in adverse effects on European sites with designated features that are sensitive to recreation pressure as follows:
- 4.32 *Designated species mortality or disturbance* - direct mortality of ground nesting birds' eggs or young by visitor trampling or dogs off leads; disturbance of ground nesting birds by recreational visitors and their dogs; mortality due to increased incidence of fires; mortality due to tipping/littering.

- 4.33 *Designated habitats loss or damage* - path erosion or soil compaction by walkers, cyclists, horse riders etc.; eutrophication of soils by dog faeces; increased incidence of fires; tipping/littering; illegal plant collection.

European sites potentially affected

- 4.34 Based on the relevant information reviewed below and correspondence with Natural England, the HRA assumed that no significant contribution to increased recreation pressure could occur more than 7.5 km from new housing development and that the vulnerability to recreation pressure of other European sites was as follows:
- 4.35 *Fenland SAC* – no significant vulnerability to recreation pressure, based on designated features plus pressures and threats described in Site Improvement Plan.
- 4.36 *Wicken Fen Ramsar site* – no significant vulnerability to recreation pressure, based on designated features plus pressures and threats described in Site Improvement Plan.
- 4.37 *Chippenham Fen Ramsar site* – no significant vulnerability to recreation pressure, based on designated features plus pressures and threats described in Site Improvement Plan.
- 4.38 *Devil's Dyke SAC* – no significant vulnerability to recreation pressure, based on designated features plus pressures and threats described in Site Improvement Plan.
- 4.39 *Rex Graham Reserve SAC* – Whilst the Site Improvement Plan notes that there is an ongoing threat to site features (military orchid) from illegal plant collection, Natural England reports⁹ that the site is generally closed to the public and the plant collection is organised theft rather than linked to recreation. In addition, the related SSSI is in 100% favourable condition. Natural England has confirmed¹⁰ that an assumption of cumulative recreation pressure from all housing allocations within 7.5 km is not necessary.
- 4.40 *Breckland SAC* – Whilst the Site Improvement Plan identifies a *potential* future threat of increased recreation through eutrophication (dog fouling, unauthorised fires) and disturbance of soils, it does not list any SAC designated features as currently being under pressure from public access / disturbance. Natural England has confirmed¹¹ that it does not consider recreation pressure is currently affecting any specific interest features on site and that an assumption of cumulative recreation pressure from all housing allocations within 7.5 km is not necessary.
- 4.41 *Breckland SPA* – the Site Improvement Plan states that designated populations of nightjar and woodlark could be threatened by future increases in recreational visitors. Whilst not highlighted in the Site Improvement Plan, the designated population of stone curlew is also likely to be vulnerable to public access / disturbance since it is a ground-nesting bird and Natural England has confirmed¹² that stone curlew are thought to be disturbed by people walking at a distance of 500 m from a nest.
- 4.42 The HRA therefore considered the potential for recreation pressure on Breckland SPA only.

Relevant information

- 4.43 There is an extensive evidence base on the effects of recreational disturbance on stone curlews, nightjars and woodlarks, the three Annex I bird species of Breckland SPA. Although national populations of all three species have generally increased in recent years, prospects for further recovery, for nightjar and woodlark at least, may be limited by factors including the effects of recreational disturbance (27).
- 4.44 A study of incubating stone curlews on Salisbury Plain (28) showed that they leave the nest in response to disturbance at considerable distances (>300 m) and that the closer a potential source of disturbance, the greater likelihood that the birds would respond by leaving the nest. Birds

⁹ Formal consultation comments on HRA at earlier stages of the SIR and SALP plus informal correspondence

¹⁰ Formal consultation comments on HRA at earlier stages of the SIR and SALP plus informal correspondence

¹¹ Formal consultation comments on HRA at earlier stages of the SIR and SALP plus informal correspondence

¹² Formal consultation comments on HRA at earlier stages of the SIR and SALP plus informal correspondence

were found to be more likely to respond by running or flying from a walker with a dog than from a walker without a dog, or from a motor vehicle.

- 4.45 Studies of nightjars have shown that breeding success is lower on sites with higher levels of access, and for nests close to footpaths. Recreational disturbance, particularly from dogs, causes adults to be flushed from the nest, potentially betraying the presence of the nest to predators such as crows (29) (30) (31) (32).
- 4.46 Woodlarks have been intensively studied in conifer plantations and heathland habitats in the Dorset Heaths (17). This work has shown that otherwise suitable habitat with high levels of recreational access holds lower densities of woodlarks. Whilst breeding success in such areas is actually better, due to reduced competition between woodlarks (33) (34), this is not sufficient to compensate for the effect of disturbance and the net effect on the woodlark population is negative (34).
- 4.47 Having established that the designated bird species of Breckland SPA are sensitive to recreation pressure, it is necessary to consider existing levels of recreation in the SPA and the extent to which these are likely to increase as a result of the development provided for by the SIR.
- 4.48 Detailed analysis of recreation pressure on Breckland SPA has been carried out to inform HRA work for the neighbouring Breckland Core Strategy (35). Parallels can be drawn with statistical modelling of increases in visitor use of paths in the Breckland SPA as a result of different housing growth scenarios for the town of Thetford (36). The three housing growth scenarios examined provided for different distributions of housing to Thetford's existing urban area, an urban extension to its northern boundary, and an urban extension to the south east by 2021, but all three featured total housing growth of 7,743 dwellings during 2007-2031. The fact that more housing growth was proposed for Thetford than is now being proposed for the whole of Forest Heath District (the SIR provides for 6,800 homes during 2011-2031), let alone any individual settlement in the District, means that applying the results from the HRA of the Breckland Core Strategy to understand the potential scale and likely effects of increased recreation pressure around settlements on Forest Heath represents a suitable approach, consistent with the precautionary principle that is required when applying the Habitats Regulations.
- 4.49 The modelling of visitor growth around Thetford allowed the RSPB¹³ to use their 'SCARE' model to explore the potential for increased flushing of stone curlews as a result of an increase in access levels resulting from new housing. The model predicted visitor numbers associated with baseline and future housing numbers to paths in Breckland SPA. The resulting calculation of the mean number of disturbance events per hour (averaged across all path sections within each 3 km grid square) increased from a baseline range of 0.04-1.10 with current housing levels to a range of 0.06-1.80, as an average for all future housing scenarios. Although this analysis was based on proposed levels of housing growth in and around Thetford, the results are also relevant to housing growth around settlements in Forest Heath District, given the close geographical relationship of the two areas to each other and to Breckland SPA.
- 4.50 As a means of determining the likely scale of recreation pressure on the other two Annex I species of Breckland SPA (woodlark and nightjar), the HRA of the Breckland Core Strategy (35) also analysed how visitor levels in Breckland SPA compare to two other SPAs which support woodlark and nightjar, namely Dorset Heaths SPA and Thames Basin Heaths SPA. This comparison is useful because the effects of recreation pressure and associated mitigation have been widely examined at these two SPAs. The comparison established that Breckland SPA represents a much larger parcel of land with public access and has far fewer houses nearby (within 500 m or within 5 km) compared to Dorset Heaths SPA or Thames Basin Heaths SPA. Directly comparable visitor data were unavailable for the three European sites but very broad brush estimates suggested that visitor pressure on Breckland SPA is low relative to the other two SPAs. This was presumably because the density of population within the vicinity of both the Dorset Heaths SPA and Thames Basin Heaths SPA is much greater than for Breckland SPA. The HRA of the Breckland Core Strategy concluded that the modelled increases in visitors as a result of planned new housing in Breckland District would still not result in the same general level of recreation pressure on Breckland SPA as is currently experienced on the Dorset Heaths SPA and Thames Basin Heaths SPA.

¹³ Early draft report provided to Liley et al by R. Langston, RSPB, on 21/9/08

- 4.51 The HRA also needs to consider the distance over which increases in recreation pressure associated with new housing may be significant. Work in other parts of the country (35), (37) has shown that coastal sites or large tracts of semi-natural habitat will attract a relatively high proportion of residents from up to 20 km away from the site. Patterns of recreational use of the Thetford Forest and surrounding areas (mostly within Breckland SPA) established through visitor surveys (36) indicate that whilst many visitors are relatively local (43% had travelled less than 5 km from their home postcode to the interview location within the Forest), 37% had travelled more than 10 km from home. Almost all of Forest Heath District lies within 10 km of the Breckland SPA, as do all of its major settlements.
- 4.52 A more recent visitor study for Breckland SPA (38) concentrated on heathland and forest ('Thetford Forest') areas of the SPA rather than farmland on the basis that these areas attract more visitors, and from further afield, since access to arable farmland is available close to home for many of the District's residents. It noted the precautionary approach taken by the HRA of the Breckland Core Strategy to potential recreational disturbance due to a lack of firm evidence to determine whether the Annex I birds of Breckland SPA are being adversely affected by recreational disturbance. Based on the new visitor survey work carried out, the study went on to advise a continued need for a precautionary approach when considering the future growth proposals for both St Edmundsbury Borough and Forest Heath District.
- 4.53 A key finding of the research was that the majority of visitors are local residents (87%), living within a 10 km radius and using Thetford Forest as their local green space which they visit at least weekly. The research recommended that:
- "Any new housing within this radius should be identified as development that would be likely to have a significant effect as a result of recreational disturbance upon the SPA, in the absence of any counteracting measures and taking a precautionary approach. It is also likely that, the closer new housing is to the Forest, the greater the additional recreational pressure will be."*
- 4.54 The research noted that its findings on the relationship between visitor rates and distance from home were similar to those presented in the HRA of the Breckland Site Specific Policies and Proposals Document (39) from a different data set. By further analysing visitor surveys (36) using just the data for visitors interviewed within Thetford Forest (Annex I bird species of Breckland SPA are particularly concentrated in these), the HRA showed that visitor rates flatten out at about 7.5 km from home postcodes to the Thetford Forest boundary; this contrasts with the approach used by (38), which measured distances from home postcodes to actual survey locations within the Thetford Forest). The HRA (39) went on to conclude that:
- "...7.5km is a suitable precautionary distance, beyond which development is not likely to result in a notable increase in visitor use. The majority of visitor pressure arises from within 7.5km."*
- 4.55 On this basis, Natural England has confirmed that it agrees that new development is unlikely to contribute significantly to recreation pressure on Breckland SPA where development is located more than 7.5 km from the SPA boundary (40). In formal representations on the HRA of the Preferred Options SIR (see Appendix 3) Natural England further confirmed that this distance does not need to apply to farmland areas of Breckland SPA because farmland is widely available across the District and residents can therefore be assumed to use farmland near to home (for example for walking dogs) rather than travelling up to 7.5 km, as they might to access woodland or heathland areas.

Approach to HRA Screening of Forest Heath SIR

- 4.56 The Forest Heath Core Strategy provides for 6,400 dwellings during 2001-2021 plus a further 3,700 during 2021-2031. The HRA of the Core Strategy concluded that the scale and broad location of housing growth proposed would increase visitor numbers to Breckland SPA, in combination with housing growth in neighbouring Breckland District. Based on the results of the modelling described above and the fact that the scale of housing growth at each of Forest Heath's settlements would be less than was planned for Thetford (7,743 dwellings during 2007-2031), the Forest Heath Core Strategy HRA concluded that the increase in recreation pressure would be small and unlikely to reach the same levels experienced by broadly comparable SPAs (Thames

Basin Heaths and Dorset Heaths). This analysis remains valid for the broadly similar scale of growth now proposed by the SIR (6,800 dwellings during 2011-2031). Further comfort can be taken from the fact that whilst many of the Breckland grass heaths have 'open access land' designated under the Countryside and Rights of Way Act 2000 (CRoW), restrictions are put in place each year due to the presence of stone curlews which will minimise disturbance effects on those sites.

- 4.57 Nevertheless, the visitor modelling described above provides evidence that some areas of habitat would be less likely to be used by stone curlews as a result of recreational disturbance linked to new housing development. Thus, whilst the increase in recreation associated with the SIR and SALP is likely to be low, likely significant effects on Breckland SPA in relation to its Annex I birds cannot be ruled out on a precautionary basis. The need for a precautionary approach is also indicated by the additional uncertainty created by the fact that Breckland SPA bird distributions change over time, particularly those of nightjar and woodlark in relation to forestry management.
- 4.58 Given the general agreement of the two Breckland SPA visitor studies discussed above, the HRA Screening of the SIR and SALP assumed that the potential for likely significant effects could be ruled out from housing development within 7.5 km of non-farmland (see discussion above) areas of Breckland SPA. The farmland parts of Breckland SPA were identified as those overlain by SSSI units which the Natural England website (41) identifies as having an 'Arable and horticulture' habitat type. Development more than 7.5 km from Breckland SPA was assumed to have no effect.
- 4.59 Figure 4.2 shows that Breckland SPA is a large European site which spans a number of neighbouring districts and the 7.5 km buffer around its non-farmland components takes in a number of local population centres including Thetford in Breckland District and Bury St Edmunds in St Edmundsbury Borough. A review of the Core Strategies and corresponding HRAs for these two districts (Appendix 1) confirmed that the development proposed in them has the potential to contribute to increased recreation pressure on Breckland SPA and therefore mitigation has been put in place to avoid likely significant effects on European sites from the development plans for those districts.
- 4.60 In relation to potential recreational disturbance of the designated stone curlew population of Breckland SPA, the zone within which the potential for likely significant effects is identified has not been extended to areas which are more than 7.5 km from the Breckland SPA boundary but are within this distance of identified stone curlew nesting attempts areas. This approach has been agreed with Natural England (40), based on the distances at which stone curlew suffer an effect and the fact that any potential recreational effects caused by development proposals within the stone curlew nesting attempts areas would be picked up at the planning application stage due to the requirements of Core Strategy Policy CS2.

In summary, prior to consideration of mitigation, the HRA Screening assumed that it is not possible to rule out likely significant effects for any housing development within 7.5 km of the boundary of non-farmland parts of Breckland SPA (potential for species mortality or disturbance). The 7.5 km recreation buffer around non-farmland parts of Breckland SPA is shown in Figure 4.2. Development with no housing component was assumed to not give rise to recreation pressure.

- 4.61 Given the spatial nature of the HRA screening criteria, potential effects were primarily assessed via HRA of the housing distribution options, as set out in Chapter 6, and screening of site allocation options, as set out in a separate HRA report accompanying the SALP. However, given the large proportion of the District covered by these screening buffers, it was also necessary to assess whether the total housing provision provided by the SIR could feasibly be delivered without a likely significant effect.

Water quantity

- 4.62 Water abstraction to supply new development provided for by the SIR could result in changes to water levels or flows at hydrologically connected European sites with the potential for adverse effects on designated features sensitive to such changes.

- 4.63 Unless otherwise cited, the information in this section is sourced from the Water Cycle Strategy supporting the Proposed Submission SIR and SALP (42) and its accompanying addendum (43).

European sites potentially affected

- 4.64 The potentially affected European sites depend on the hydrological connections between those sites and the water resources that are abstracted to supply the needs of Forest Heath District. In consultation with Natural England and the Environment Agency, the Water Cycle Strategy (42) (43) carried out a screening assessment for all of the scoped in European sites for potential water quantity effects.

Relevant information

Anglian Water Strategy

- 4.65 Forest Heath District's potable water is supplied by Anglian Water. Water companies have a statutory duty to establish how planned development in their area can be serviced. These plans are set out in their Water Resources Management Plan (WRMP). Investments to deliver the plans are based on five year planning cycles known as Asset Management Periods (AMP) so the water company programme for water infrastructure upgrades may constrain the rate at which residential growth can be supported.
- 4.66 In 2015, AWS published its latest WRMP for the period 2015-2040 which shows that three resource zones (RZs) fall within Forest Heath District – Newmarket RZ, West Suffolk RZ, and Ely RZ. Table 4.2 summarises for each of these (RZs) the scale of residential growth assumed by the WRMP; the forecast year by which it was forecast that demand would exceed supply in the absence of future supply and demand management measures; and the preferred supply and demand management measures proposed to bring supply and demand back into balance. It is notable that the WRMP deliberately makes its own assumptions on housing growth rather than using local authority policy figures. The forecasting also assumed that demand management (various leakage reduction, enhanced metering and water efficiency measures) would be implemented in each Resource Zone.

Table 4.2 Forecast supply-demand status for Water Resource Zones covering Forest Heath District (44) (42) (43)

Resource Zone	Supply source	Assumed dwellings growth per annum in RZ 2015-2040	Year by which RZ enters deficit	Preferred schemes to maintain supply-demand balance
Newmarket	Groundwater	250	N/A – remains in surplus	None
West Suffolk	Groundwater	500 (2015-2020) 600 (2020-2025) 700 (2025-2040)	2024/25	a river restoration and recirculation project and a transfer from East Suffolk RZ
Ely	Groundwater	500	2024/25	sustainability reductions at two Water Treatment Works and a transfer from Fenland/Newmarket RZ

- 4.67 Following review of the 2015 WRMP and consultation with Anglian Water, the Water Cycle Strategy concluded that the development proposed by the Forest Heath SIR and SALP can be supplied with water without increased abstraction and where possible utilising transfer from surrounding RZs in water surplus and that there would therefore be no negative impact from the development proposed in terms of water supply. The WRMP is subject to its own HRA (45) - this confirmed that likely significant effects could be ruled out for all preferred schemes to maintain supply-demand balance.

Catchment Abstraction Licensing Strategy (CAMS)

- 4.68 The Environment Agency is responsible for managing water resources in England. The Environment Agency controls how much water is abstracted with a permitting system, regulating existing licences and granting new ones. It uses the CAMS process and abstraction licensing strategies to do this. The CAMS process aims to aid the meeting of the environmental objectives of the Water Framework Directive by:
- providing a water resource assessment of rivers, lakes, reservoirs, estuaries and groundwater referred to as water bodies under the Water Framework Directive (WFD);
 - identifying water bodies that fail flow conditions expected to support good ecological status;
 - preventing deterioration of water body status due to new abstractions;
 - providing results which inform River Basin Management Plans (RBMPs).
- 4.69 The entirety of Forest Heath District is located within the Cam and Ely Ouse abstraction area for which the most recent CAMS was published in 2013 (46). This area is broken down into five detailed areas which are covered individually within the strategy; Forest Heath District is located within four of these areas: Cam, Rhee and Granta; Ely Ouse; Snail, Lark and Kennett; and Wissey. The CAMS identifies that the main water resources pressures are extensive water supply abstraction along with river support schemes and water transfers.
- 4.70 The CAMS process has developed a classification system in order to inform the abstraction process, this classification provides an indication of:
- the relative balance between the environmental requirements for water and how much is licensed for abstraction;
 - whether water is available for further abstraction;
 - areas where abstraction may need to be reduced.
- 4.71 In terms of surface water across Forest Heath District, water is generally available for high flows ('Q30') with limited or no water available for low flows ('Q95'/'Q70'). In terms of groundwater, the entirety of Forest Heath lies on a chalk aquifer classified as:
- "Water not available for licensing; groundwater unit balance shows more water has been abstracted based on recent amounts than the amount available; no further consumptive licences will be granted."*
- 4.72 Where water abstractions cause or potentially cause environment damage, existing licences may need to be revoked or changed in order to achieve a sustainable outcome. The CAMS identifies a number of designated sites (SAC/SPA/SSSI) where flows have fallen below the Environmental Flow Indicator (EFI). The relevant abstraction licences are therefore being assessed under the Environment Agency's Restoring Sustainable Abstraction (RSA) programme to assess impact and mitigation options. The CAMS identifies that all existing and new abstraction licences have been or are currently being assessed in order to make sure they are not impacting nationally or internationally designated sites. Table 4.3 shows the nationally designated sites located within or in proximity to Forest Heath District and confirms that no changes to existing licences are currently required. The CAMS also states for Breckland SAC that *"The investigations for these sites are awaiting the implementation of changes to the GOGS [Great Ouse Groundwater Scheme] licences. No further licence changes proposed."*

Table 4.3 Nationally designated sites currently under investigation as part of the RSA programme (42) (44) (43)

Site No.	Site Name	CAMS RSA Comments
8	Cavenham-Icklingham Heaths SSSI	Component of Fenland SAC, Ramsar site. No immediate licence changes proposed.
11	Chippenham Fen and Snailwell Poors Fen SSSI	Component of Fenland SAC. ROC implementation in progress – no licence changes proposed.
20	Lakenheath Poors Fen SSSI	No immediate licence changes proposed.

Approach to HRA Screening of Forest Heath SIR

- 4.73 The potential effects of development proposed by the SIR and SALP on water levels and flows will primarily be a function of the cumulative impact of all the proposed growth in each of the relevant catchments/RZs on water resources. The potential effects of the amount and distribution of growth proposed by the SIR and SALP were assessed by the Water Cycle Strategy (42) (43), making reference to its findings (summarised above) on whether the growth can be supplied without increasing existing abstraction licences and whether changes to existing licences are being proposed by the Environment Agency to avoid harm to European sites or component SSSIs. The results of that assessment are presented in the HRA of the SIR rather than the HRA of the SALP since the assessment of the SIR broad distribution of housing did not highlight any water quantity effects that required more detailed assessment in relation to any individual site allocation.

Water quality

- 4.74 New development could result in increased volumes of treated wastewater discharges, resulting in nutrient enrichment of water and potential lowering of dissolved oxygen as well as increased water velocities and levels downstream of Water Recycling Centres (WRC) outfalls.
- 4.75 New development could also result in overloading of the combined sewer network during storm events with the potential for flooding and contamination of hydrologically connected European sites.
- 4.76 An increase in the area of urban surfaces and roads could increase the potential for contaminated surface runoff and the contamination of hydrologically connected European sites.

European sites potentially affected

- 4.77 The potentially affected European sites depend on the hydrological connections between those sites and the WRC discharge points and the combined sewer networks serving Forest Heath District. Site Improvement Plans for Breckland SAC/ SPA; for Fenland SAC/ Chippenham Fen Ramsar site; and for Redgrave and South Lopham Fens Ramsar site identify current pressure from poor water quality caused by nutrient enrichment but other scoped in European sites may be vulnerable to future water quality effects associated with planned growth. In consultation with Natural England and the Environment Agency, the Water Cycle Strategy (42) (43) carried out a screening assessment for all of the scoped in European sites for potential water quality effects.

Relevant information

Treated wastewater discharges

- 4.78 Anglian Water is responsible wastewater treatment within Forest Heath District.
- 4.79 In consultation with Anglian Water, the Environment Agency and FHDC the Water Cycle Strategy (42) (43) examined the evidence in relation to the capacity of the District's WRCs to accept the higher volumes of sewage associated with the scale and distribution of growth proposed by the SIR and SALP and to treat it without deterioration in the water quality of receiving water courses. The results of the assessment of wastewater treatment capacity are summarised in Table 4.4 and show that an increased discharge beyond currently consented capacity is forecast for one WRC, Tuddenham, which serves the settlements of Tuddenham, Red Lodge and Herringswell.

Table 4.4 WRC treatment capacity

WRC (area served)	Currently consented discharge volume (m ³ /day)	Forecast actual volume in 2031 after provision of development in SIR/SALP (m ³ /day)	Water Cycle Strategy conclusion
Brandon (Brandon)	2,006	1,214	No constraints associated with Brandon WRC either in terms of treatment capacity or discharge capacity
Lakenheath (Lakenheath)	860	769	No constraints associated with Lakenheath WRC either in terms of treatment capacity or discharge capacity
Mildenhall (Mildenhall, Beck Row and West Row)	3,900	2,846	No constraints associated with Mildenhall WRC either in terms of treatment capacity or discharge capacity
Newmarket (Newmarket, Kentford and Exning)	6,100	5,447	No constraints associated with Newmarket WRC either in terms of treatment capacity or discharge capacity
Tuddenham (Tuddenham, Red Lodge and Herringswell)	1,100	1,208	Existing discharge consent exceeded

Combined sewer overflows

- 4.80 The Water Cycle Strategy (42) (43) reports that while detailed sewerage network models are not available for the majority of Forest Heath District, consultation with Anglian Water did not highlight significant sewerage capacity “show stoppers” or an increased risk of combined sewer overflows, although many of the site allocations in the SALP would be likely to require some local sewer network upgrades to accommodate the increased flow.

Approach to HRA Screening of Forest Heath SIR

- 4.81 The potential effects of the amount and distribution of growth proposed by the SIR and SALP were assessed by the Water Cycle Strategy (42) (43), making reference to its findings (summarised above) on whether the growth can be accommodated within existing WRC discharge consents and sewer network capacity. The results of that assessment are presented in the HRA of the SIR since the assessment did not highlight any water quality effects that required more detailed assessment in relation to any individual site allocation.
- 4.82 The Water Cycle Strategy did not examine the potential for contaminated surface runoff from new built development to adversely affect European sites. It should, however, be possible to avoid such effects through the development management process via appropriate design features (for example provision of appropriately designed SUDS) and site layout (for instance separation of development from any adjacent water course by a buffer strip). As such, the HRA assumed that provided sufficient policy safeguards existed to secure any such measures that are necessary to protect water quality and European sites then likely significant effects from contaminated surface runoff could be ruled out.

Air quality

- 4.83 Air pollution arising from new or more congested roads as a result of new development could result in toxic contamination or nutrient enrichment of sensitive habitats.

European sites potentially affected

- 4.84 Based on a review of the designated features of the scoped-in European sites and the documented pressures and threats facing them, the potentially affected European sites were identified as:
- Breckland SAC and SPA.
 - Devil's Dyke SAC.
 - Fenland SAC, Chippenham Fen Ramsar site, and Wicken Fen Ramsar site.
 - Norfolk Valley Fens SAC.
 - Rex Graham Reserve SAC.

Relevant information

- 4.85 The Design Manual for Roads and Bridges (DMRB) (47) provides scoping criteria for the assessment of local air quality effects from development projects that are likely to affect road traffic and states that only designated sites within 200 m of roads affected by the project need be considered. The DMRB scoping criteria indicate that more detailed environmental assessment of local air quality effects on sensitive designated sites within 200 m is appropriate if any of the following criteria are met:
- daily traffic flows will change by 1,000 AADT or more; or
 - Heavy Duty Vehicle (HDV) flows will change by 200 AADT or more; or
 - daily average speed will change by 10 km/hr or more; or
 - peak hour speed will change by 20 km/hr or more.
- 4.86 In addition, areas within the 200 m buffer around designated sites likely to experience higher-than-average pollution concentrations, such as tunnel portals, roundabouts and junctions, should be identified.
- 4.87 More detailed information on the sensitivity of the SACs listed at para. 4.85 above was obtained from the 'Atmospheric nitrogen theme plan' for improvement of England's Natura 2000 sites (48). The theme plan reports the sensitivity of the sites' designated features to atmospheric nitrogen, the level of critical load exceedance of the most sensitive designated features, the likelihood of atmospheric nitrogen impacts, and whether emissions from local agriculture as opposed to traffic and other sources are likely to be a significant factor, as summarised in Table 4.5.

Table 4.5 Sensitivity of SACs to atmospheric nitrogen (N)

SAC name	Sensitivity to atmospheric N	Level of critical load exceedance	Likelihood of N impact	Relevance of local agricultural ammonia sources	Potential significance of measures to reduce local agricultural ammonia
Breckland	Very sensitive	Very high	Very likely	High	High
Devil's Dyke	Sensitive	Moderate	Likely	Low	Low
Fenland	Less sensitive, potentially sensitive	Moderate	Uncertain	Medium	Low
Norfolk	Very sensitive	Very high	Very likely	High	High

SAC name	Sensitivity to atmospheric N	Level of critical load exceedance	Likelihood of N impact	Relevance of local agricultural ammonia sources	Potential significance of measures to reduce local agricultural ammonia
Valley Fens					
Rex Graham Reserve	Sensitive	Moderate	Likely	Medium	Medium

4.88 SPAs and Ramsar sites are not covered by the theme plan but the HRA screening considers them for the following reasons:

- Breckland SPA – Standard Data Form includes threat and pressure code H04 (Air pollution, air-borne pollutants); Site Improvement Plan for Breckland SAC and SPA identifies atmospheric nitrogen deposition as a potential future threat to stone curlew and woodlark designated features and the need for further investigation.
- Chippenham Fen and Wicken Fen Ramsar sites - Site Improvement Plan for Fenland SAC, Chippenham Fen Ramsar site, and Wicken Fen Ramsar site identifies atmospheric nitrogen deposition as a pressure or threat to the purple moor-grass meadows and calcium rich fen interest features of the SAC, purple moor-grass also being identified by both Ramsar Information sheets.

4.89 The above information indicates that all of the European sites identified at para. 4.84 are vulnerable to increased nitrogen inputs. Fenland SAC is only rated as 'potentially sensitive', with the potential impact of atmospheric nitrogen 'uncertain' but was scoped into the HRA on a precautionary basis. Whilst agricultural emissions are clearly judged to be a significant source of nitrogen inputs to some of the SACs, additional nitrogen inputs from road traffic emissions would be likely to result in further exceedance of critical loads.

Approach to HRA Screening of Forest Heath SIR

4.90 Potential effects were presented in the HRA of the housing distribution options set out in the SIR rather than in the HRA of the SALP since changes in traffic flows will depend on the combined effects of all development proposed by the SIR and SALP rather than individual allocations. No site-specific issues were revealed in the course of the assessment that should be included in the HRA Report for the SALP.

Proximity of sensitive European sites to major roads

4.91 The HRA Screening first considered the location of the sensitive European sites identified above relative to major roads (A11, A14 or A47 trunk roads or a non-trunk A-road) that could potentially see a significant increase in traffic as result of the development proposed by the SIR and SALP.

Initial assessment of traffic growth

4.92 For those European sites within 200 m of such roads, the HRA then drew on the best available information about the traffic growth likely to occur as a result of the development proposed by the SIR and SALP - that within FHDC's Transport Study (25) (26).

4.93 The Transport Study modelled two growth scenarios for 2016-2031, one that assumed no growth at Brandon ('Exc. Brandon') and one that included a hypothetical development of 200 dwellings adjacent to Brandon's settlement boundary and accessed via the A1065 ('Inc. Brandon'). The SIR provides for additional growth at Brandon of 71 dwellings during 2016-2031 so the 'Inc. Brandon' traffic growth scenario was used in the HRA on a precautionary basis.

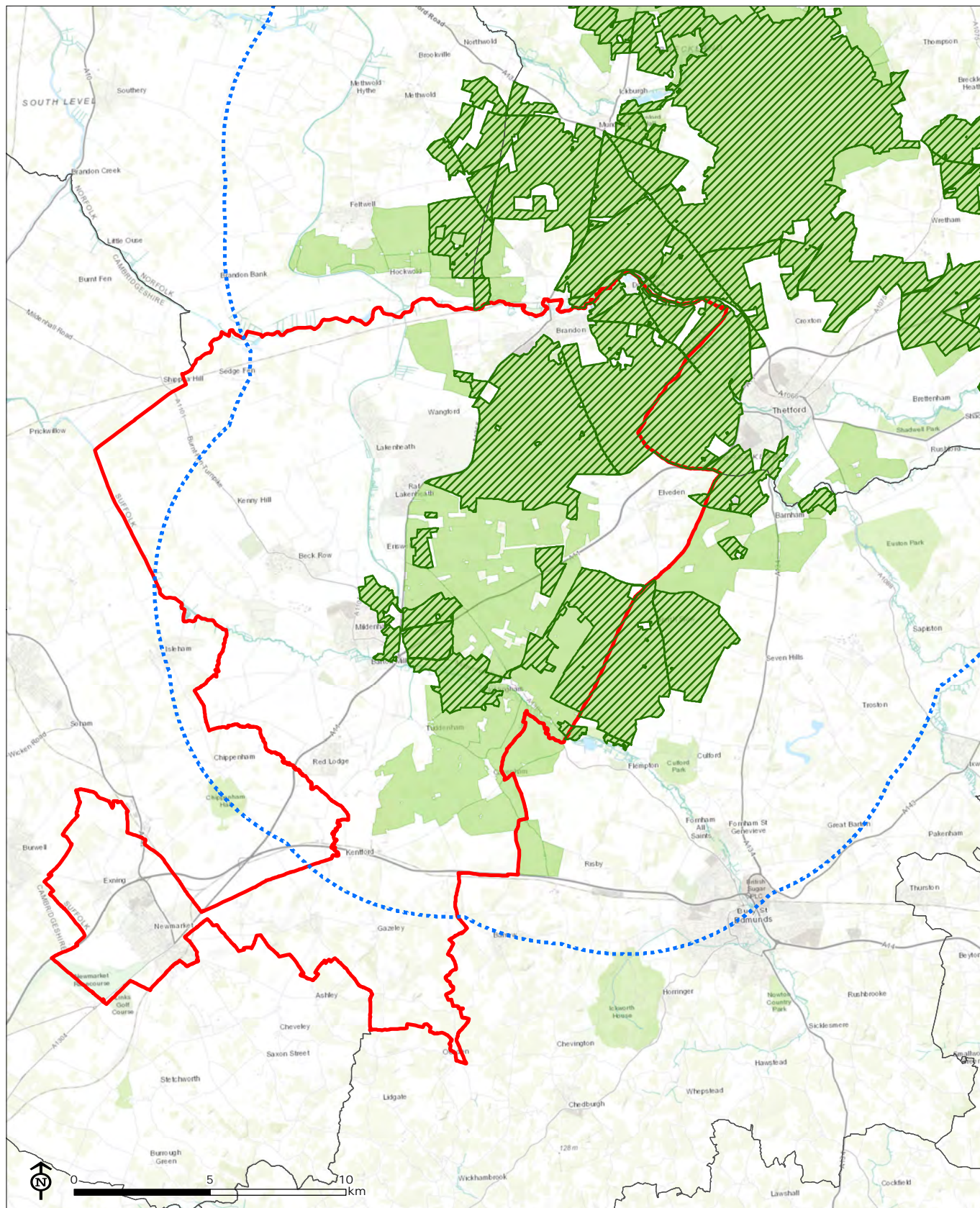
4.94 Although the Transport Study outputs did not include the metrics referred to in the DMRB scoping criteria (listed at para. 4.85 above), the study did forecast the increase in traffic movements expected to occur as a result of planned growth during the morning (AM) peak hour and afternoon (PM) peak hour at key road junctions throughout the District. The study's authors (AECOM) were able to use these outputs to provide LUC with information on the expected increase in traffic during the AM peak on road segments between the key road junctions within the District within

200 m of the sensitive European sites. Suffolk County Council transport planners advised that an estimate of the increase in Annual Average Daily Traffic (AADT) could be obtained by multiplying the AM peak hour traffic growth figures by a factor of ten.

- 4.95 The estimates so obtained for the road segments within 200 m of sensitive European sites within the District were compared to the DMRB scoping figure of 1,000 AADT.

Limitations of assessment approach and basis of screening conclusions

- 4.96 The existing transport model was subject to a number of limitations as a basis for HRA Screening in relation to air quality effects as follows:
- it does not directly calculate changes in any of the metrics specified by the DMRB as a basis for screening for air quality effects (AADT, HDV flows, daily average speed, peak hour speed) and linked to this, Suffolk County Council transport planners advise against basing key findings on estimates of AADT obtained by multiplying AM peak growth by a factor of ten;
 - it is designed to calculate changes in traffic at key road junctions rather than on particular road segments that are close to sensitive European sites and traffic growth figures were therefore not available for all major roads within 200 m of sensitive European sites (e.g. the A14 between junctions 40 and 41);
 - it forecasts traffic growth from a 2016 baseline to 2031 whilst the HRA is concerned with the effects of growth over the 2011-2031 plan period and the housing growth assumptions for the transport model do not exactly match those provided for by the SIR.
- 4.97 In recognition of these limitations a 10% margin of error was applied to the estimates of AADT before comparing them to the 1,000 AADT threshold for potential air quality effects prescribed by the DMRB. If AADT + 10% reached the 1,000 AADT threshold on any modelled road segment within 200 m of a sensitive European site then the HRA Screening assumed that likely significant effects could not be ruled out.



- Forest Heath District Boundary
- Breckland SPA
- Non-farmland areas of Breckland SPA
- 7.5 km buffer around non-farmland areas of Breckland SPA

Forest Heath Local Plan
HRA

Figure 4.2
Recreation Pressure
Buffer

Source: JNCC, Natural England



Map Scale @ A4: 1:200,000

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

5 HRA Screening of overall housing provision

The overall housing provision

- 5.1 Provision will be made for at least 6,800 dwellings in the district over the plan period 2011 to 2031; this equates to 340 dwellings per annum or 'dpa'.

HRA Screening assessment

- 5.2 An assessment was carried out to identify the potential for the SIR overall housing provision to have likely significant effects on any of the European sites scoped into the HRA.
- 5.3 As explained in Chapter 4, certain types of potential effects from development on European sites were more appropriately assessed via the HRA Screening of housing distribution options (see Chapter 6) or via the HRA Screening of the SALP (contained in a separate report). The HRA Screening of the total housing provision was therefore only concerned with potential recreation pressure.
- 5.4 The SIR overall housing provision in Policy CS7 makes no reference to the locations for development. Since the provision will be implemented through the separate 'Broad Distribution' section within Policy CS7 and the SALP (being prepared concurrently with the SIR), the policy's effects on European sites are, in general, more appropriately assessed via HRA of the related, more spatially specific policy provisions. Assessment of the broad distribution for housing is provided in Chapter 6; assessment of the site allocations is provided in a separate HRA Report for the SALP. In taking this approach, however, the HRA sought to verify that the total amount of development proposed was not so great that, no matter where it is located, it could not be delivered without a likely significant effect on a European site.
- 5.5 The overall dwelling provision in the SIR was compared to the total provision under Policy CS7 of the adopted Core Strategy. Policy CS7 of the adopted Core Strategy provided for 6,400 dwellings during 2001-2021 of which 1,935 were already built during 2001-2009, leaving 4,465 to be built during the 12 years from 2009 to 2021 (equating to 372 dpa) and 3,700 dwellings during the ten years from 2021 to 2031 (370 dpa). Following the addition of various measures for avoidance and mitigation in the Core Strategy, the Appropriate Assessment stage of the HRA was able to conclude that the Core Strategy would not have any adverse effects on the integrity of any European site.
- 5.6 Since the protective policies within the Core Strategy remain in force and the SIR provides for less housing during 2011-2031 than the Core Strategy, it is probable that adverse effects on the integrity of European sites will not arise. However, in light of the time that has elapsed since the Core Strategy was subject to HRA and following the precautionary principle, an assessment was made of whether likely significant effects from the SIR overall housing provision could be ruled out no matter where the development is located. The approach was based on the information and assumptions set out in Chapter 4.

Initial screening assessment prior to mitigation

- 5.7 The potential for recreational disturbance exists from any housing development within 7.5 km of the non-farmland parts of Breckland SPA. As shown in Figure 4.2, a 7.5 km buffer around the non-farmland parts of Breckland SPA covers most of Forest Heath District and it was judged unlikely that any reasonable alternative distribution of 6,800 homes would be able to avoid this buffer area entirely. A potential for likely significant effects on Breckland SPA due to recreation pressure from the overall housing distribution was therefore identified, prior to consideration of mitigation.

Existing mitigation which could rule out likely significant effects

- 5.8 Adopted Local Plan policies in the Core Strategy and Development Management Policies document provide a general commitment to provide new or enhanced open space alongside new development and to manage and monitor recreation pressure as follows:

Core Strategy policies (49)

- 5.9 Policy CS2: Natural Environment - The policy promotes green infrastructure enhancement and/or provision on all new developments.
- 5.10 Policy CS13: Infrastructure and Developer Contributions - This requires sufficient capacity in existing local infrastructure, including for open space, sport and recreation, before land is released for development. It also provides for developer contributions to improve infrastructure to the required standard before development is occupied and to arrange for its subsequent maintenance. Guidance on how the Council will implement the open space requirements within this policy is provided in an SPD (50) which includes the approach to determining when developer contributions can be used to provide off site open space.

Development management policies (51)

- 5.11 Policy DM12: Mitigation, Enhancement, Management and Monitoring of Biodiversity states that:

"All new development (excluding minor household applications) shown to contribute to recreational disturbance and visitor pressure within the Breckland SPA and SAC will be required to make appropriate contributions through S106 agreements towards management projects and/or monitoring of visitor pressure and urban effects on key biodiversity sites."

- 5.12 Policy DM42: Open Space, Sport and Recreation Facilities protects against the loss of existing open space as a result of development and further states that *"where necessary to the acceptability of the development, the local planning authority will require developers of new housing, office, retail and other commercial and mixed development to provide open space...or to provide land and a financial contribution towards the cost and maintenance of existing or new facilities, as appropriate."*
- 5.13 Policy DM44: Rights of Way protects against the loss of existing or proposed rights of way and enables improvements to rights of way to be sought *"in association with new development to enable new or improved links to be created within the settlement, between settlements and/or providing access to the countryside or green infrastructure sites as appropriate"*.

Accessible Natural Greenspace Study

- 5.14 In addition to these general policy commitments to provision and enhancement of open space and rights of way, the Council has carried out an Accessible Natural Greenspace Study (52) to provide evidence on appropriate accessible natural greenspace that will support the planned growth in the District. The study reviews accessible natural greenspace provision at the District's main settlements, explores the opportunities for new greenspace and access routes that could be delivered to support the planned growth, and outlines a recreation pressure mitigation strategy for each main settlement.
- 5.15 FHDC's study updates an assessment, first presented in the Core Strategy, of the availability of natural greenspace at each main settlement in the District and its capacity for additional visitors. Drawing on the Council's Supplementary Planning Document (SPD) for Open Space, Sport and Recreation Facilities (50), the Accessible Natural Greenspace Study then sets a minimum provision standard of 2.3 ha of accessible natural greenspace per 1,000 population. Population growth in the District is currently estimated to be 17,000 over the Local Plan period (53), so this provision standard equates to a total accessible natural greenspace requirement of at least 39 ha. The Accessible Natural Greenspace Study goes on to determine the minimum amount of accessible natural greenspace that should be provided at each of the District's settlements by applying the 2.3 ha per 1,000 population standard and an assumption of 2.34 persons per household to the number of homes to be provided at each settlement by the SIR and SALP.
- 5.16 In discussing the design of Suitable Accessible Natural Greenspace (SANG) to most effectively mitigate recreation pressure on Breckland SPA, the Accessible Natural Greenspace Study makes reference to Natural England guidance. It adapts this guidance in light of the Forest Heath

District context, in particular the fact that because a large proportion of the District is designated for biodiversity, in some areas there is very little space to provide SANGs at settlements. It therefore proposes some flexibility in applying the guidance, for example by providing greenspace which may be smaller than 2 ha where space does not allow larger SANGs but ensuring it is connected to other greenspace by attractive walking and cycling routes.

- 5.17 Discussion between the Council and Natural England has highlighted two SSSIs, Maids Cross Hill SSSI at Lakenheath and Red Lodge SSSI at Red Lodge, which are in close proximity to and act as the main areas of natural greenspace for these settlements. These SSSIs are already subject to significant recreation pressure and the Accessible Natural Greenspace Study documents that the Council has agreed with Natural England the need for a wardening service at these two sites. This element of mitigation is not directly relevant to the HRA as the SSSIs in question are not part of European sites but demonstrates the potential role for measures other than SANG provision, such as visitor management, to mitigate recreation pressure.
- 5.18 The Accessible Natural Greenspace Study also notes that to avoid potential adverse effects on populations of Breckland SPA's designated species before they occur, monitoring of visitor levels and activities and monitoring of the effectiveness of mitigation measures such as Suitable Accessible Natural Greenspace (SANG) provision is likely to be required.
- 5.19 Drawing all of this information together, the Accessible Natural Greenspace Study proposes a recreation mitigation strategy, the key principles of which are reproduced in Box 1. The document then further develops these via specific proposals for each settlement.

Box 1: FHDC Recreation Mitigation and Monitoring Strategy - Key Features

- Provide at least the level of open space set out in the SPD for Open Space, Sport and Recreation Facilities on all development sites.
- Where there is already a sports pitch and formal provision available within the community that is easily accessible, take a flexible approach to increase the natural open space through the SPD provision.
- In those settlements shown through the ANGSt study to be deficient in a 2-20 ha local green space, aim to create new open space of this size in association with new development. This should be located within 300 m of the new dwellings to ensure easy access for the new residents, and the design should, as much as is practicable, follow the (adapted) Natural England guidelines.
- Secure the provision of a large SANG area, at least 10 ha, such as a country park with adequate car parking facilities and natural areas which fulfil many of the requirements of the Natural England SANG design.
- New green space should be connected to the existing GI network through the retention of existing and creation of new features such as tree belts, hedges, grasslands, and river corridors.
- For development sites in settlements that are within 7.5 km of the heathland and forest components of Breckland SPA, improve and connect the wider green infrastructure network to provide access and walking routes of approximately 2.5 km in length.
- A warden service should be established where development could lead to recreational pressure that could damage the interest features of the existing sensitive open spaces that are designated nationally and/or locally. These sites include Maids Cross Hill SSSI and LNR, Red Lodge Heath SSSI and Aspal Close LNR.
- Where appropriate and proportionate to the scale and location of development, monitoring should be secured. Consultation with Natural England will be necessary to agree the level of monitoring.

- 5.20 In commenting on a draft of the Accessible Natural Greenspace Study during Preferred Options consultation on the SIR and SALP, Natural England stated that the study *"...has correctly identified the areas which are lacking natural greenspace"* and accepted the need to *"increase greenspace and green networks in a flexible way as suggested"*, given the limited, undesignated space

available at the District's settlements. Where Natural England made suggestions to strengthen the mitigation offered by the study, such as inclusion of a large SANG area (at least 10 ha) and to focus on improvements to the wider green infrastructure network on development at settlements within 7.5 km distance of the heathland and forest areas of Breckland SPA, FHDC has given consideration to these and reflected them in the latest (January 2017) version of the study.

HRA Screening conclusion

- 5.21 It was judged that the mitigation offered by adopted policies alone was insufficient to rule out likely significant effects from the SIR overall housing provision in relation to recreation pressure on Breckland SPA. This was primarily because these policies do not implement the Recreation Mitigation and Monitoring Strategy set out in FHDC's Accessible Natural Greenspace Study.
- 5.22 However, it was noted that this strategy is in the process of being implemented via provisions in policies of the emerging SALP, for example requiring provision of alternative natural greenspace, dog-friendly access routes and connections to the wider green infrastructure network. Consideration was therefore given to whether the policies set out in the emerging SALP, if adopted, could provide sufficient mitigation in this regard.
- 5.23 In relation to likely significant effects from recreation pressure, the HRA of the Proposed Submission SALP concluded as follows:
- "It is judged that the mitigation offered by existing Local Plan policies and those proposed within the Proposed Submission SALP to provide and enhance open space and rights of ways networks and the linkage of these to a coherent Recreation Mitigation and Monitoring Strategy set out in the Accessible Natural Greenspace study is sufficient to avoid likely significant effects due to recreation pressure on any European site, including Breckland SPA, from the overall housing distribution."*
- 5.24 This conclusion demonstrates that it is feasible to implement the overall housing provision within the SIR without likely significant effects in relation to recreation pressure. Likely significant effects from the overall housing provision can therefore be ruled out and reliance placed on assessment at a lower tier of plan making (HRA of the SALP) to ensure that site-specific allocations incorporate appropriate elements of FHDC's Recreation Mitigation and Monitoring Strategy to avoid likely significant effects.

HRA Screening conclusion

Likely significant recreation pressure effects from the SIR overall housing distribution on European sites can be ruled out. This conclusion relies on appropriate elements of FHDC's Recreation Mitigation and Monitoring Strategy being implemented via the SALP (a lower tier plan) and the fact that the SALP is itself subject to HRA.

6 HRA Screening of broad distribution of housing

The broad distribution of housing

- 6.1 Table 6.1 shows how the overall housing provision for 2011-2031 will be distributed across the District's settlements. To deliver this broad distribution, sites will be identified through the SALP and/or neighbourhood plans.

Table 6.1 Broad distribution of housing in SIR Policy CS7

Settlement	Existing completions and commitments and (2011-2015)	Additional provision	Total
Brandon	59	71	130
Mildenhall	185	1,412	1,597
Newmarket	291	321	612
Lakenheath	95	828	923
Red Lodge	699	1,129	1,828
Primary Villages	953	454	1,407
Other*	155	0	155
Windfall	0	225	225
TOTAL	2,437	4,440	6,877

* Other includes completions and commitments within rural areas, secondary villages and small settlements

HRA Screening assessment

- 6.2 An assessment was carried out to identify the potential for the SIR broad distribution of housing to have likely significant effects on any of the European sites scoped into the HRA.
- 6.3 As explained in Chapter 4, certain types of potential effects from development on European sites were more appropriately assessed via the HRA Screening of options for total housing provision (see Chapter 5) or via the HRA Screening of the SALP (contained in a separate report). The HRA Screening of housing distribution options was therefore concerned with the following types of potential effect:
- disturbance and other urban edge effects from construction or occupation of buildings;
 - disturbance from construction or operation of roads.
 - recreation pressure.
 - water quantity.
 - water quality.
 - air quality.
- 6.4 The HRA Screening was based on the evidence and assumptions set out in Chapter 4. When applying relevant screening assessment buffer distances (such as that 'disturbance and other

urban edge effects' can be ruled out when development is more than 1,500 m from relevant components of Breckland SPA or functionally linked stone curlew habitat), it was assumed that all development set out in the housing distribution options would occur within 2.0 km of the existing boundary of a named Market Town or Key Service Centre (Brandon, Mildenhall, Newmarket, Lakenheath, Red Lodge) or within 1.0 km of a Primary Village; this was judged sufficient to allow for the largest likely settlement extensions.

6.5 For each type of potential effect, the following sections set out:

- an assessment of the potential for the broad distribution of housing in the SIR to have a likely significant effect on a European site, prior to consideration of mitigation;
- mitigation available where the potential for likely significant effects is identified - this may be, for example, from adopted Core Strategy policies other than CS7 (which is being reviewed by the SIR) or adopted policies in the Development Management Policies Local Plan; and
- a conclusion as to whether likely significant effects on European sites can be ruled out.

Disturbance and other urban edge effects from construction or occupation of buildings

Initial screening assessment of potential for likely significant effects prior to mitigation

6.6 In line with the methodology in Chapter 4, prior to consideration of mitigation, the HRA Screening assumed that likely significant effects could not be ruled out if it appeared likely that the broad distribution of housing would be unlikely to be able to avoid development which:

- overlaps, or is within 1,500 m of, SSSI components of Breckland SPA designated for stone curlew; or
- overlaps, or is within 1,500 m of a 1 km grid square with ≥ 5 stone curlew nesting attempts during 2011-2015; or
- overlaps, or is within 400 m of, SSSI components of Breckland SPA designated for woodlark or nightjar.

6.7 The results of the initial screening were as follows.

Brandon

6.8 All of Brandon and all but a very small area of the land on the boundary of the existing built up area are within 1,500 m of components of Breckland SPA designated for stone curlew. More than half of Brandon and all of its southern and eastern boundaries (including the small area not within the stone curlew buffer) are within 400m of components of Breckland SPA designated for woodlark and nightjar. It is therefore unlikely to be possible to avoid allocations within the buffers identified above and likely significant effects on Breckland SPA cannot be ruled out for the broad distribution.

Mildenhall

6.9 The eastern half of Mildenhall and adjoining greenfield land fall within 1,500 m of components of Breckland SPA designated for stone curlew and within 400m of components of Breckland SPA designated for woodlark and nightjar. It would therefore be possible to avoid likely significant effects by allocating housing on infill sites and to the north west, west, and south west of the settlement.

Newmarket

6.10 The nearest Breckland SPA constraint zone is 4.9 km from the existing settlement boundary. It should therefore be possible to achieve an allocation which avoids likely significant effects.

Lakenheath

6.11 Small sections of the land immediately to the east of Lakenheath's settlement boundary are part of the Breckland SAC or within Breckland SPA's constraint zone for stone curlew. In addition, all of the land to the south and east of Lakenheath is within the stone curlew nesting attempts

buffer. Nevertheless, it would be possible to avoid likely significant effects by allocating housing on infill sites and to the north and west of Lakenheath.

Red Lodge

- 6.12 The south eastern corner of Red Lodge and much of the land to its east and south are within Breckland SPA's constraint zones for stone curlew and/or stone curlew nesting attempts. It would be possible to avoid likely significant effects by allocating housing on infill sites and to the north and west of the settlement.

Primary villages

- 6.13 *Beck Row:* Areas of land approximately 0.8 km to the east of Beck Row's settlement boundary are within Breckland SPA's constraint zones for stone curlew or woodlark and nightjar.
- 6.14 *West Row:* The nearest Breckland SPA constraint zone is 2.8 km to the east of the settlement boundary.
- 6.15 *Exning:* The nearest Breckland SPA constraint zone is 6.8 km to the east of the settlement boundary.
- 6.16 *Kentford:* The eastern half of Kentford and its environs fall within the Breckland SPA stone curlew and/or stone curlew nesting attempts constraint zones.
- 6.17 It would be possible to achieve an allocation which avoids likely significant effects by focussing growth at the Primary Villages of Beck Row, West Row and Exning and ensuring that any allocations to Kentford are outside of the Breckland SPA stone curlew and/or stone curlew nesting attempts constraint zones.

Other

- 6.18 The 'other' provision of 155 dwellings represents dwellings which have already been permitted or completed and where these were within the Breckland SPA constraints zones, adverse effects on the integrity of European sites should already have been ruled out by project level HRA in line with the requirements of Core Strategy Policy CS2.

Windfall

- 6.19 The locations of windfall sites, which represent about 5% of the additional provision in the SIR, will not be known until they come forwards. The potential effects of these developments on European sites are therefore more appropriately assessed via project level HRA.

Summary

- 6.20 The initial assessment found that likely significant effects could be ruled out from all elements of the broad distribution of housing in SIR Policy CS7 except for the provision of 130 dwellings to Brandon.

Existing mitigation which could rule out likely significant effects

- 6.21 Policy CS2 of the Core Strategy requires project level HRA for development proposals within the Breckland SPA constraint zones that correspond to the distances used by this HRA to assess the potential for disturbance and other urban edge effects. It further states that development likely to lead to an adverse effect on integrity will not be allowed. However, it was deemed inappropriate to rely on this policy in coming to an HRA Screening conclusion as this would pre-empt the findings of any project level HRA, and the required mitigation may not be deliverable.

HRA Screening conclusion

- 6.22 It was judged that the mitigation offered by adopted policies alone was insufficient to rule out likely significant effects from the SIR broad distribution of housing provision in relation to disturbance and other urban edge effects on Breckland SPA.
- 6.23 However, it was noted that this strategic policy is in the process of being implemented via allocation policies in the emerging SALP. The HRA of the SALP considered the potential disturbance and other urban effects of these allocations in detail, making reference to project level HRAs where these had been carried out and considering factors such as the screening of the

site allocations by existing built development and the presence of features barrier that could act as barrier to the movement of predators.

- 6.24 In relation to disturbance and other urban edge effects, the HRA of the Proposed Submission SALP was able to rule out adverse effects on the integrity of Breckland SPA, both alone and in combination in relation to all site allocations other than for site 9(c). This allocation was subject to a recommendation that the requirement for project level HRA be included in Policy SA9 rather than supporting text to ensure that any new planning application (if the current planning permission is not implemented) can be required to provide appropriate mitigation for the effects on stone curlew nest attempts outside of Breckland SPA – see HRA of the SALP for details. It is understood that the Council intends to make this policy change through the Examination process.
- 6.25 This conclusion from parallel HRA work demonstrates that it is feasible to implement the broad distribution of housing within the SIR without likely significant effects in relation to disturbance and other urban edge effects. Likely significant effects from the SIR broad distribution of housing can therefore be ruled out and reliance placed on assessment at a lower tier of plan making (HRA of the SALP) to ensure that the particular site-specific allocations avoid adverse effects on the integrity of Breckland SPA.

HRA Screening conclusion

Likely significant disturbance and other urban edge effects from the SIR broad distribution of housing on European sites can be ruled out. This conclusion relies on the fact that the broad distribution is being implemented via the SALP (a lower tier plan) and the fact that the SALP is itself subject to HRA.

Disturbance from construction or operation of roads

Initial screening assessment of potential for likely significant effects prior to mitigation

- 6.26 In line with the methodology in Chapter 4, prior to consideration of mitigation, the HRA Screening assumed that it is not possible to rule out likely significant effects on Breckland SPA if development provided for by the SIR would result in the need for any new road infrastructure or road improvements to increase capacity which:
- overlaps, or is within 1,500 m of, SSSI components of Breckland SPA designated for stone curlew; or
 - overlaps, or is within 1,500 m of a 1 km grid square with ≥ 5 stone curlew nesting attempts during 2011-2015.
- 6.27 FHDC's Transport Study (25), as amended (26), was used to identify locations where the planned growth in the District would be likely to create a need for new road infrastructure or road improvements to increase capacity. The Transport Study suggests a number of highway improvements to accommodate the level of development to 2031, which are summarised in Table 6.2 alongside an initial assessment of their potential to result in likely significant effects, prior to consideration of mitigation.

Table 6.2 Highway improvements and their relation to stone curlew buffers

Highway improvement recommended by Transport Study	Potential disturbance of stone curlew?
Junction 18 - A14 / Fordham Road – The enhanced signalised option for the junction to be explored and progressed to an increased level of detail.	No
Junction 17 - A14 / A11 (junction 38) – A need for an upgrading of the existing road markings at the merge and diverge junctions has been identified.	No
Junction 6 - A11 / A1101 Mildenhall Road / A1065 Brandon Road / A1101 Bury Road (A11 Fiveways) – The impact on the junction to be explored when assessed as part of the forthcoming strategic model. Any further mitigation at this junction would require a step-change in provision which will require further investigation such as grade separation.	Yes - within 1,500 m of, SSSI components of Breckland SPA to south east of Mildenhall that are designated for stone curlew
Junction 3 - A1101 Kingsway / A1101 North Terrace / B1102 High Street – No obvious physical improvement schemes have been identified to mitigate the impact at this junction. Further investigation of solutions is required. The potential to prioritise sustainable travel or the potential to direct some movements away from the town centre should be explored as part of a wider multimodal assessment of Mildenhall town centre.	No
Junction 4 - A1101 Kingsway / Brandon Road / A1101 Bury Road – No obvious physical improvement scheme has been identified to mitigate the impact at this junction. Further investigation of solutions is required. The potential to prioritise sustainable travel or the potential to direct some movements away from the town centre should be explored as part of a wider multimodal assessment of Mildenhall town centre.	Yes - within 1,500 m of, SSSI components of Breckland SPA to east of Mildenhall that are designated for stone curlew
Junction 19 - A1304 High Street / Exeter Road / A142 / A1304 Bury Road / B1063 five-arm roundabout – No further improvements identified. Further options should be explored as part of a wider Newmarket town centre study to include the Fordham Road signals and Exeter Road junction.	No
Junction 11 - A1304 Fordham Road / Studlands Park Avenue / Oaks Drive – Performance to be monitored following the implementation of improvements at junction 18.	No
Junction 24 - B1112 / Lord's Walk / Earls Field roundabout – Progress with proposed mitigation scheme as junction operates within theoretical capacity in the future year scenarios. Future year traffic flows to be refined using the strategic model, when	Yes - within 1,500 m of, SSSI components of Breckland SPA to east of Little Eriswell that are designated for stone curlew and within 1,500 m of stone curlew nesting attempts grid

Highway improvement recommended by Transport Study	Potential disturbance of stone curlew?
available, to understand likely capacity at the junction.	square to north east
Junction 25 - B1112 / Eriswell Road priority 'T' junction – Use the strategic model which is currently being developed to refine future year traffic flows to further understand proposed mitigation at this junction. Resolution of a number of issues, including land ownership would be required before mitigation could be implemented.	Yes - within 1,500 m of, SSSI components of Breckland SPA to east of Eriswell that are designated for stone curlew

- 6.28 In summary, potential likely significant disturbance effects on the stone curlew population of Breckland SPA could not be ruled out for highway improvements on the A1101 at Mildenhall and on the B1112 at Eriswell/Little Eriswell.

Existing mitigation which could rule out likely significant effects

- 6.29 Policy CS2 of the Core Strategy requires project level HRA for development proposals within the Breckland SPA stone curlew/stone curlew nesting attempts constraint zones that correspond to the distances used by this HRA to assess the potential for disturbance effects of roads on stone curlew. It further states that development likely to lead to an adverse effect on integrity will not be allowed. However, it was deemed inappropriate to rely on this policy in coming to an HRA Screening conclusion for the SIR as the outcome of the project level HRAs required by CS2 was not yet known.

HRA Screening conclusion

Likely significant effects on Breckland SPA in the form of disturbance from construction or operation of roads cannot be ruled out for highway improvements likely to be required by the broad distribution of housing growth in the SIR and an Appropriate Assessment is therefore required.

Recreation pressure

Initial screening assessment of potential for likely significant effects prior to mitigation

- 6.30 In line with the method described in Chapter 4, the HRA Screening assumed that, prior to consideration of mitigation, it was not possible to rule out likely significant effects for any housing development within 7.5 km of the boundary of non-farmland parts of Breckland SPA (potential for species mortality or disturbance). The results of the initial screening of the broad distribution of housing provided by Policy CS7 of the SIR are set out in Table 6.3.

Table 6.3 Initial screening of broad distribution of housing for recreation pressure

Settlement	Able to rule out potential for LSE prior to mitigation?
Brandon	All of Brandon and the undeveloped land around the existing settlement boundary is within 7.5 km of the non-farmland parts of Breckland SPA. Therefore not possible to rule out potential for likely significant recreation pressure (prior to mitigation) on Breckland SPA under any likely allocation of the housing distribution figure within or adjoining the settlement.
Mildenhall	All of Mildenhall and the undeveloped land around the existing settlement boundary is within 7.5 km of the non-farmland parts of Breckland SPA. Therefore not possible to rule out potential for likely significant recreation pressure (prior to mitigation) on Breckland SPA under any likely allocation of the housing distribution figure within or adjoining the settlement.
Newmarket	None of Newmarket and the undeveloped land around the existing settlement boundary is within 7.5 km of the non-farmland parts of Breckland SPA. Therefore possible to rule out potential for likely significant recreation pressure (prior to mitigation) on Breckland SPA under any likely allocation of the housing distribution figure within or adjoining the settlement.
Lakenheath	All of Lakenheath and the undeveloped land around the existing settlement boundary is within 7.5 km of the non-farmland parts of Breckland SPA. Therefore not possible to rule out potential for likely significant recreation pressure (prior to mitigation) on Breckland SPA, under any likely allocation of the housing distribution figure within or adjoining the settlement.
Red Lodge	All of Red Lodge and the undeveloped land around the existing settlement boundary is within

Settlement	Able to rule out potential for LSE prior to mitigation?
	7.5 km of the non-farmland parts of Breckland SPA. Therefore not possible to rule out potential for likely significant recreation pressure (prior to mitigation) on Breckland SPA, under any likely allocation of the housing distribution figure within or adjoining the settlement.
Primary Villages	All of Beck Row and West Row and the undeveloped land around them boundary are within 7.5 km of the non-farmland parts of Breckland SPA. The area to the south west of Kentford and all of Exning and the surrounding area are more than 7.5 km of the non-farmland parts of Breckland SPA so it would be possible to achieve the SIR's broad distribution of housing to Primary Villages without likely significant recreation pressure on Breckland SPA by allocating all of the housing figure for Primary Villages to these areas. The actual distribution of housing to particular Primary Villages is set out in the SALP which is subject to a separate HRA.
Other	The 'other' provision of 155 dwellings represents dwellings which have already been permitted or completed and these developments should therefore have already been subject to HRA, if relevant, and mitigated any likely significant effects that were identified.
Windfall	The locations of windfall sites, which represent about 5% of the additional provision in the SIR, will not be known until they come forwards. The potential effects of these developments on European sites are therefore more appropriately assessed via project level HRA.

- 6.31 In summary, the initial assessment found that likely significant recreation pressure effects on Breckland SPA could not be ruled out for the SIR broad distributions of housing to Brandon, Mildenhall, Lakenheath and Red Lodge.

Existing mitigation which could rule out likely significant effects

- 6.32 Relevant existing mitigation has already been described at paragraphs 5.8 to 5.20 of the HRA screening of the overall housing provision.

HRA Screening conclusion

- 6.33 It was judged that the mitigation offered by adopted policies alone was insufficient to rule out likely significant effects from the SIR broad distributions of housing to Brandon, Mildenhall, Lakenheath and Red Lodge in relation to recreation pressure on Breckland SPA. This was primarily because these policies do not implement the Recreation Mitigation and Monitoring Strategy set out in FHDC's Accessible Natural Greenspace Study.
- 6.34 However, it was noted that this strategy is in the process of being implemented via provisions in policies of the emerging SALP, for example requiring provision of alternative natural greenspace, dog-friendly access routes and connections to the wider green infrastructure network. Consideration was therefore given to whether the policies set out in the emerging SALP, if adopted, could provide sufficient mitigation in this regard.
- 6.35 In relation to likely significant effects from recreation pressure, the HRA of the Proposed Submission SALP concluded as follows:
- "It is judged that the mitigation offered by existing Local Plan policies and those proposed within the Proposed Submission SALP to provide and enhance open space and rights of ways networks and the linkage of these to a coherent Recreation Mitigation and Monitoring Strategy set out in the Accessible Natural Greenspace study is sufficient to avoid likely significant effects due to recreation pressure on any European site, including Breckland SPA, from the overall housing distribution."*
- 6.36 This conclusion demonstrates that it is feasible to implement the broad distribution of housing within the SIR without likely significant effects in relation to recreation pressure. Likely significant effects from the broad distribution of housing could therefore be ruled out and reliance on placed on assessment at a lower tier of plan making (HRA of the SALP) to ensure that site-specific allocations incorporate appropriate elements of FHDC's Recreation Mitigation and Monitoring Strategy to avoid likely significant effects.

HRA Screening conclusion

Likely significant recreation pressure effects from the SIR broad distribution of housing on European sites can be ruled out. This conclusion relies on appropriate elements of FHDC's Recreation Mitigation and Monitoring Strategy being implemented via the SALP (a lower tier plan) and the fact that the SALP is itself subject to HRA.

Water quantity

Initial screening assessment of potential for likely significant effects prior to mitigation

- 6.37 The Water Cycle Strategy (42) (43) conducted a screening assessment for potential water quantity effects on European sites in consultation with Natural England and the Environment Agency and drawing on the relevant information summarised in Chapter 4, the results of which are presented in Table 6.4.

Table 6.4 Initial screening assessment in relation to water quantity

European sites	Proximity to closest development locations	Potential water quality effects
Breckland SAC, SPA	Mildenhall located within 500 m. Brandon is located within 1 km.	Taken forward for further assessment due to their proximity and relation to the impacted settlements – see Appropriate Assessment chapter.
Chippenham Fen Ramsar site	Newmarket located within 3 km. Exning located within 3 km. Red Lodge located within 5 km.	Taken forward for further assessment due to their proximity and relation to the impacted settlements – see Appropriate Assessment chapter.
Devil's Dyke SAC	Newmarket located within 3 km. Exning located within 3 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.
Fenland SAC	Newmarket located within 50 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.
Norfolk Valley Fens SAC	Brandon located within 12 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.
Ouse Washes SAC, SPA and Ramsar site	Lakenheath located within 20 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.
Redgrave and South Lopham Fens Ramsar site	Mildenhall located within 33 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.
Rex Graham Reserve SAC	The Rex Graham Reserve is located within the Brecklands and was considered as part of the Breckland SAC/SPA assessment.	
The Wash & Norfolk Coast SAC/ The Wash SPA and Ramsar site	Lakenheath located within 40 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.
Wicken Fen Ramsar site	Exning located within 6 km.	Water Cycle Strategy showed that the proposed development can be supplied without increasing existing abstraction licences – likely significant effects ruled out.

- 6.38 The findings of the initial assessment therefore identified the potential for likely significant effects, prior to mitigation, on Breckland SAC/SPA and Chippenham Fen Ramsar site.

Existing mitigation which could rule out likely significant effects

- 6.39 The additional water needs of new development may be achievable within the headroom of existing water abstraction licences or may require new licences. The permitting system operated by the Environment Agency regulates existing abstraction licences and granting of new ones. The Environment Agency is in the process of reviewing currently permitted levels of abstraction that may be damaging to the environment and identifying measures to avoid such damage through its

Restoring Sustainable Abstraction programme. It aims to complete this by March 2020. The Environment Agency also has a standard approach (Resource Assessment and Abstraction Licensing Strategies) to assessing the amount of water available for further abstraction, only granting a licence after the needs of the environment (and existing abstractors) are met.

HRA Screening conclusion

- 6.40 Whilst the permitting system operated by the Environment Agency should prevent adverse effects on European sites, it is possible that such effects from the growth proposed by the SIR and SALP could arise due to additional abstraction within existing licences until the Restoring Sustainable Abstraction programme is completed. The more detailed assessment carried out by the Water Cycle Strategy in relation to potential water quantity effects on Breckland SAC/SPA and on Chippenham Fen Ramsar site is therefore presented in the Appropriate Assessment chapter.

HRA Screening conclusion

Likely significant water quantity effects on European sites from the housing growth proposed by the SIR cannot be ruled out in relation to Breckland SAC/SPA and Chippenham Fen Ramsar site.

Water quality

Initial screening assessment of potential for likely significant effects prior to mitigation

Treated wastewater discharges

- 6.41 The Water Cycle Strategy (42) (43) conducted a screening assessment for potential water quality effects on European sites in consultation with Natural England and the Environment Agency and drawing on the relevant information summarised in Chapter 4, the results of which form the basis of Table 6.5. The table shows that the initial assessment ruled out the potential for likely significant effects on all European sites other than Breckland SAC and SPA.

Combined sewer overflows

- 6.42 The Water Cycle Strategy concluded that while there are no significant sewer network capacity issues associated with the proposed development that would represent “show stoppers”, many of the allocated sites would be likely to require some upgrades to accommodate the increased flows. The initial HRA Screening (prior to mitigation) presented in Table 6.5 assumed that if combined sewer overflows occurred, these would only be capable of significant effects on a European site if that site is within 5 km of the affected sewer network; this was judged to be a precautionary assumption.

Contaminated surface runoff

- 6.43 As described in the methodology (Chapter 4), no spatial analysis was carried out in relation to potential adverse effects on European sites from contaminated surface run-off as the potential risk was judged to be low and readily avoided by appropriate, site-specific mitigation. The HRA screening was therefore limited to checking that appropriate mitigation can be required via policy safeguards – see mitigation section below.

Table 6.5 Initial screening assessment for water quality effects from wastewater discharges and combined sewer overflows, prior to mitigation

European sites	Potential water quality effects from treated wastewater discharges	Potential water quality effects from combined sewer overflows
Breckland SAC, SPA	Brandon WRC, Mildenhall WRC and Tuddenham WRC are all within 1 km of the European designations. Existing discharge consent will be exceeded at Tuddenham WRC due to scale of development proposed at Red Lodge – see Appropriate Assessment chapter for analysis of water quality effects. The WCS has evidenced that discharge consents will not be exceeded at Brandon WRC and Mildenhall WRC.	The sewers associated with Brandon, Mildenhall and Tuddenham are all in close proximity to the European designations. Mitigation for the potential adverse water quality effect due to combined sewer overflows is considered below.
Chippenham Fen Ramsar site	Newmarket WRC is located within 2 km. The WCS has evidenced that discharge consents will not be exceeded at Newmarket WRC; potential for likely significant effects ruled out.	Newmarket sewers are located within 2 km. Mitigation for the potential adverse water quality effect due to combined sewer overflows is considered below.
Devil's Dyke SAC	Newmarket WRC is located within 3 km. The WCS has evidenced that discharge consents will not be exceeded at Newmarket WRC; potential for likely significant effects ruled out.	Newmarket sewers are located within 3 km. Mitigation for the potential adverse water quality effect due to combined sewer overflows is considered below.
Fenland SAC	Newmarket WRC is located within 44 km. The WCS has evidenced that discharge consents will not be exceeded at Newmarket WRC; potential for likely significant effects ruled out.	No sewers within 5 km; potential for likely significant effects ruled out.
Norfolk Valley Fens SAC	Brandon WRC is located within 12 km. The WCS has evidenced that discharge consents will not be exceeded at Brandon WRC; potential for likely significant effects ruled out.	No sewers within 5 km; potential for likely significant effects ruled out.
Ouse Washes SAC, SPA and Ramsar site	Lakenheath WRC is located within 20 km. The WCS has evidenced that discharge consents will not be exceeded at Lakenheath WRC; potential for likely significant effects ruled out.	No sewers within 5 km; potential for likely significant effects ruled out.
Redgrave and South Lopham Fens Ramsar site	Mildenhall WRC is located within 33 km. The WCS has evidenced that discharge consents will not be exceeded at Mildenhall WRC; potential for likely significant effects ruled out.	No sewers within 5 km; potential for likely significant effects ruled out.
Rex Graham Reserve SAC	The Rex Graham Reserve is located within the Brecklands and was considered as part of the Breckland SAC/SPA assessment.	
The Wash & Norfolk Coast SAC/ The Wash SPA and Ramsar site	Lakenheath WRC is located within 40 km. The WCS has evidenced that discharge consents will not be exceeded at Lakenheath WRC; potential for likely significant effects ruled out.	No sewers within 5 km; potential for likely significant effects ruled out.
Wicken Fen Ramsar site	Newmarket WRC is located within 8 km. The WCS has evidenced that discharge consents will not be exceeded at Newmarket WRC, therefore there will be no impact on water quality; potential for likely significant effects ruled out.	No sewers within 5 km; potential for likely significant effects ruled out.

Existing mitigation which could rule out likely significant effects

Treated wastewater discharges

6.44 Mitigation is available as follows:

- Core Strategy Policy CS13: requirement for sufficient capacity in existing local infrastructure before land is released for development and to gather developer contributions to improve infrastructure to the required standard. One of the main areas to be addressed is:
 - *"Providing for additional strategic waste water treatment capacity in accordance with Strategic Flood Risk Assessment and Water Cycle Study. This waste water infrastructure will be upgraded as required and operational in time to meet the demands of the development;"*
- Development Management Policy DM14: all development proposals should ensure no deterioration to water quality and development will not be permitted where, individually or cumulatively, there are likely to be unacceptable impacts on the natural environment or surface and groundwater quality.
- The volume and quality of treated wastewater discharges from WRCs to receiving water courses is subject to regulation by the Environment Agency via the grant and review of environmental permits. This Environmental permitting regime operated by the Environment Agency should ensure that any development requiring variation in the discharge consent for a WRC does not result in deterioration in downstream water quality as a result of that variation.

Combined sewer overflows

6.45 Mitigation is available as follows:

- 6.46 Core Strategy Policy CS13: requirement for sufficient capacity in existing local infrastructure before land is released for development and to gather developer contributions to improve infrastructure to the required standard.
- 6.47 Development Management Policy DM6: requirement for all new development to manage on-site drainage, for example by use of Sustainable Drainage Systems (SUDS).
- 6.48 Development Management Policy DM14: all development proposals should ensure no deterioration to water quality and development will not be permitted where, individually or cumulatively, there are likely to be unacceptable impacts on the natural environment or surface and groundwater quality.

Contaminated surface runoff

6.49 Mitigation is available from the following policies in the adopted Joint Development Management Policies Document:

- Development Management Policy DM6: requirement for all new development to manage on-site drainage, for example by use of Sustainable Drainage Systems (SUDS).
- Development Management Policy DM14: all development proposals should ensure no deterioration to water quality and development will not be permitted where, individually or cumulatively, there are likely to be unacceptable impacts on the natural environment or surface and groundwater quality.

HRA Screening conclusion

Treated wastewater discharges

- 6.50 Notwithstanding the strong mitigation outlined above it was judged that more detailed assessment was appropriate in relation to potential water quality effects on Breckland SAC/SPA. This was in relation to the forecast need for wastewater discharges from Tuddenham WRC in excess of its current consents. Likely significant effects were not, therefore, ruled out and an Appropriate Assessment is presented in Chapter 7.

Combined sewer overflows

- 6.51 Following review of Anglian Water asset datasets and consultation with Anglian Water, the Water Cycle Strategy (42) (43) concluded that the sewerage network holds no constraint to the proposed development. This was based on the fact that Anglian Water regards connection to

combined sewers as a last resort for surface water drainage and encourages developers to consult it as early as possible during the planning process to identify potential alternatives (e.g. infiltration via a SUDS system or connection to a watercourse or storm sewer) or, where these are not possible, to agree any combined sewer network upgrades are required. It was judged that the mitigation policies outlined above provide sufficient certainty that any sewer network upgrades required by new development will be provided and likely significant effects were therefore ruled out.

Contaminated surface runoff

- 6.52 It was judged that any potential adverse water quality effects of contaminated surface runoff on European sites could be ruled out by reliance on the relevant development management policies (see above) to secure any necessary site-specific avoidance measures.

HRA Screening conclusion

Likely significant effects on Breckland SAC/SPA in the form of water quality effects from treated wastewater discharges by Tuddenham WRC cannot be ruled out from the housing growth proposed by the SIR and an Appropriate Assessment is therefore required.

Air quality

Initial screening assessment of potential for likely significant effects prior to mitigation

Proximity of sensitive European sites to major roads

- 6.53 Consideration was first given to whether the sensitive European sites (see Chapter 4) were within 200 m of a major road that could potentially see a significant increase in traffic as result of the development proposed by the SIR and SALP. This assessment is set out in Table 6.6.

Table 6.6 European sites sensitive to air pollution and their proximity to major roads

European site	Relationship to major roads	Conclusion
Breckland SAC	Various elements of the SAC within the District are within 200 m of: <ul style="list-style-type: none"> - A1065 between Little Eriswell and Brandon - A11 between junctions with B1112 and B1106 - A1101 between Mildenhall and junction with B1112 	Assessment of traffic growth on these roads is required
Breckland SPA	The following major roads pass through or within 200 m of large parts of the SPA: <ul style="list-style-type: none"> - A1065 between Mildenhall and Brandon - A11 between Mildenhall and Thetford - A1101 between Mildenhall and Bury St Edmunds - Section of A14 just outside District 	Assessment of traffic growth on these roads is required

European site	Relationship to major roads	Conclusion
	boundary to west of Risby	
Devil's Dyke SAC	North west end of SAC is within 200 m of A14 where it crosses District boundary west of Newmarket South east end of SAC is within 200 m of A1304 where it crosses District boundary south west of Newmarket	Devil's Dyke is a linear site that lies perpendicular to the A14 and A1304; this and the fact that the northern end of the SAC is approximately 140 m from the A14 limit the exposure of the European site to air pollution from these roads, such that likely significant effects can be ruled out
Fenland SAC	No A-roads within 200 m	Likely significant effects can be ruled out
Chippenham Fen Ramsar site	No A-roads within 200 m	Likely significant effects can be ruled out
Wicken Fen Ramsar site	No A-roads within 200 m	Likely significant effects can be ruled out
Norfolk Valley Fens SAC	No A-roads within 200 m	Likely significant effects can be ruled out
Rex Graham Reserve SAC	All of site is within 200 m of A11 between Mildenhall and A11 junction with B1112	Assessment of traffic growth on these roads is required

Initial assessment of traffic growth

- 6.54 As set out in Chapter 4, the Transport Study was used to provide estimates of traffic growth (AADT) and a 10% margin of error was then added to these to allow for potential errors in the method of estimation and provide a precautionary figure. The shaded rows indicate road segments with estimated traffic growth (including 10% margin of error) of 1,000 AADT or more which are also within 200 m of a sensitive European site, indicating a need for more detailed assessment of air quality effects.

Table 6.7 Estimated traffic growth in proximity to sensitive European sites ('Inc. Brandon' growth scenario)

Road Number	Direction	Link	AM Peak		Estimated AADT growth due to development (10x AM peak)	Estimated AADT growth due to development - both directions (+10%)	Road segment is within 200 m of sensitive European site?	Notes
			2031 Without Development	2031 With Development - 2031 Without Development				
A1065 High Street	Northbound	North of junction with A1065 London Road	489	52	520	650 (715)	No	
	Southbound		658	13	130			
A1065 London Road	Northbound	South of junction with A1065 High Street	508	121	1,210	1,530 (1,683)	No	
	Southbound		532	32	320			
B1107 Thetford Road	Eastbound	Between junction with A1065 and B1106	605	77	770	1,040 (1,111)	No	
	Westbound		446	27	270			
B1107 Thetford Road	Eastbound	East of junction with B1106	341	49	490	490 (539)	Yes	
	Westbound		0	0	0			
B1106	Northbound	South of junction with B1107	498	27	270	540 (594)	Yes	
	Southbound		289	27	270			
A1065	Northbound	North of Fiveways Roundabout	450	86	860	1,630 (1,793)	Yes	Main link between Mildenhall and Brandon, passing adjacent to Breckland SPA along most of its length as well as adjacent to areas of Breckland SAC
	Southbound		515	77	770			
A11 North	Northbound	North of Fiveways Roundabout	1,093	94	940	1,300 (1,430)	Yes	Main link between Mildenhall and Thetford, passing through Breckland SPA along much of its length as well as through one area of Breckland SAC and adjacent to Rex Graham Reserve SAC
	Southbound		1,647	36	360			
A1101 East	Eastbound	East of Fiveways Roundabout	159	0	0	0	Yes	
	Westbound		208	0	0			
Service Station	Eastbound	East of Fiveways Roundabout	96	0	0	0	Yes	
	Westbound		4	0	0			
A11 South	Northbound	South of Fiveways Roundabout	1,578	288	2,880	7,750 (8,525)	Yes	Section of A11 immediately south of Fiveways Roundabout is within 200 m of area of Breckland SPA between Bury Road and the SPA
	Southbound		2,240	487	4,870			
A1101 West	Eastbound	West of Fiveways Roundabout	747	458	4,580	6,490 (7,139)	Yes	Section of A1101 immediately west of Fiveways Roundabout passes through or adjacent to areas of Breckland SPA to east and north of Mildenhall
	Westbound		662	191	1,910			
Brandon Road	Eastbound	East of junction with A1101	320	142	1,420	1,870 (2,057)	Yes	Brandon Road passes through or adjacent to areas of Breckland SPA to east of Mildenhall
	Westbound		451	45	450			

Existing mitigation which could rule out likely significant effects

- 6.55 The following adopted policies may help to encourage modal shift away from road traffic and/or avoid air pollution from road traffic:
- 6.56 Core Strategy policy CS 2: Natural Environment prevents the development of new road infrastructure or road improvements within 200 m of SACs. Whilst this should allow likely significant effects from road traffic pollution to be ruled out in relation to new or improved roads, the potential remains for effects from significant traffic increases on existing roads.
- 6.57 Policy CS 12: Strategic Transport Improvement and Sustainable Transport supports improvements to rail infrastructure, the National Cycle Network, and rights of way within the District.
- 6.58 Development Management Policy DM2: Creating Places - Development Principles and Local Distinctiveness requires designs that encourage the use of sustainable forms of transport through the provision of pedestrian and cycle links, including access to shops and community facilities.
- 6.59 Development Management Policy DM3: Masterplans requires these to show pedestrian and cycle links, access to the surrounding countryside and open space, public transport links and a Travel Plan.
- 6.60 Development Management Policy DM4: Development Briefs requires proposals for significant development where a masterplan is not required to identify footpath, cycle and public transport links.
- 6.61 Development Management Policy DM22: Residential Design states that residential development should ensure appropriate levels of permeability and accessibility favouring sustainable transport routes and consider the needs of pedestrians and cyclists before car users as well providing safe and well integrated streets.
- 6.62 Development Management Policy DM45: Transport Assessments and Travel Plans requires that developments likely to have significant transport implications be accompanied by a Transport Assessment and Travel Plan that demonstrates how transport impacts will be mitigated and sustainable modes promoted.
- 6.63 The emerging SALP includes the following relevant requirements:
- 6.64 In relation to allocations to Mildenhall, supporting text to allocation policies (para 5.5.12) states:
- "The housing and employment growth planned for Mildenhall over the plan period will generate a large number of additional traffic and altered movements. Mitigation schemes will be required as development sites in the town are brought forward to facilitate improvements. In addition to specific highway improvements it is also important that sustainable modes of travel are enhanced. These improvements will be sought through travel plans required as part of development proposals. The Fiveways roundabout to the east of the town is part of the strategic road network, and the council will continue to work with Highways England, Suffolk County Council and local people and organisations to plan for future improvements."*
- 6.65 SALP Policy SA4: Focus of growth - Land west of Mildenhall requires a masterplan (see related requirements of Policy DM3) and that permeability between the existing settlement edge and new development for pedestrians and cyclist be provided.
- 6.66 SALP Policy SA10: Focus of growth – North Red Lodge also requires a masterplan (see related requirements of Policy DM3).
- 6.67 SALP Policy SA14: Housing allocation and school expansion in West Row requires sustainable travel provision including facilities for pedestrians and cyclists to access village amenities.

HRA Screening conclusion

- 6.68 Traffic growth above the 1,000 AADT level has been predicted to occur on some sections of major roads within 200 m of Breckland SAC, Breckland SPA and Rex Graham Reserve SAC. For Breckland SPA the avoidance of major roads by stone curlew (described under road disturbance at paras. 4.26 to 4.27) means that this interest feature is unlikely to be significantly affected by local

air pollution from traffic which becomes insignificant at a distance of more than 200 m from a road. There is uncertainty about the significance of changes in air quality that would occur as a result of traffic growth and therefore on the effects that this could have on the woodlark and nightjar designated features of Breckland SPA as well as on the habitats for which Breckland SAC and Rex Graham Reserve SAC are designated.

HRA Screening conclusion

Likely significant air quality effects on Breckland SAC, Breckland SPA and Rex Graham Reserve SAC cannot be ruled out due to road traffic growth associated with the development proposed by the SIR and further assessment is therefore required.

Recommendations for further work

- 6.69 As described at para. 4.96, the traffic growth modelling on which the HRA Screening for air quality effects has been based is subject to a number of limitations. It is recommended that these are addressed and that this forms the basis of an assessment of the air quality effects that may occur as a result of the growth proposed by the SIR on Breckland SAC, Breckland SPA and Rex Graham Reserve SAC.
- 6.70 The air quality assessment should, in the first instance, carry out further screening to quantify the changes in NO_x levels and nitrogen deposition and whether these are significant. Where this is the case more detailed assessment and identification of appropriate mitigation may be required.
- 6.71 It is understood that the Council intends to commission such further assessment with a view to the findings being available before the end of the consultation period for the Proposed Submission SIR and SALP.

7 Appropriate Assessment

- 7.1 This chapter gives more detailed consideration to whether adverse effects on the integrity of any European site can be ruled out in relation to the types of effect for which HRA Screening (see Chapter 6) was unable to rule out likely significant effects. The types of effect in question were:
- disturbance from construction or operation of roads, with respect to Breckland SPA;
 - water quantity, with respect to Breckland SAC/SPA and Chippenham Fen Ramsar site;
 - water quality, with respect to Breckland SAC/SPA.

Disturbance from construction or operation of roads

Scope of the Appropriate Assessment

- 7.2 The HRA Screening was unable to rule out the potential for likely significant disturbance effects on the stone curlew population of Breckland SPA in relation to the following highway improvements recommended by FHDC's Transport Study to accommodate planned growth in the District:
- Junction 6 - A11 / A1101 Mildenhall Road / A1065 Brandon Road / A1101 Bury Road (A11 Fiveways);
 - Junction 4 - A1101 Kingsway / Brandon Road / A1101 Bury Road;
 - Junction 24 - B1112 / Lord's Walk / Earls Field roundabout;
 - Junction 25 - B1112 / Eriswell Road priority 'T' junction.

Approach to Appropriate Assessment

- 7.3 As described in Chapter 4, a clear avoidance by stone curlews of otherwise suitable habitat adjacent to major roads has been demonstrated in a number of studies and these effects exist up to a distance of at least 1,000 m from trunk roads and possibly up to 2,000 m; this formed the basis of the 1,500 m separation distance used for HRA Screening. Reviewing the two latest and most directly relevant studies in more detail revealed the following study findings.
- 7.4 When all A-roads were treated equally, regardless of whether the nearest was a trunk road (A11, A14 or A47) or a much less busy A-road, it was found that stone curlew nest density is generally lower for areas within 400 m of the nearest A-road, but at greater distances there is no consistent pattern; (18)
- 7.5 For trunk roads only (A11, A14 or A47), regardless of the level of buildings, the nest density was always lowest in areas within 500 m of the nearest trunk road and highest in the areas furthest from the nearest trunk road; stone curlews almost completely avoid nesting on otherwise suitable arable land if it is very near to both a Trunk road and a large area of buildings. (18)
- 7.6 Significantly lower densities of stone curlew nests were found at distances up to 1,500m from settlements, and distances up to 1,000m or more from major (trunk) roads. The best fitting models involved optimally distance weighted variables for the extent of nearby buildings and the trunk road traffic levels. (54)
- 7.7 The Appropriate Assessment therefore considered:
- whether the highway improvement recommended by the Transport Study was within 1,000 of a trunk road (A11, A14 or A47) or within 400 m of a less busy A-road;
 - the separation distance between the junction improvement and the nearest SSSI component of Breckland SPA designated for stone curlew or nearest stone curlew nesting attempts grid square; and

- whether any built development (existing or allocated by the SALP) could screen the junction improvement from the relevant SSSI component of Breckland SPA designated for stone curlew or stone curlew nesting attempts grid square.

7.8 The Transport Study (25) (26) which identified the highway improvements likely to be required took into account the cumulative effects on traffic of all relevant growth proposed by the SIR and SALP as well as traffic associated with a number of development locations in East Cambridgeshire. Potential in combination effects were further considered by identifying any separate highway improvements which could result in disturbance of the same area of Breckland SPA.

Results of Appropriate Assessment

Conclusion: The Appropriate Assessment, set out in Table 7.1, was able to rule out adverse effects on the integrity of Breckland SPA.

Table 7.1 Appropriate Assessment of highway improvements

Junction	Highway improvement suggested by Transport Study	Is junction on a trunk road?	Distance of nearest stone curlew habitat from road junction	Screening of stone curlew habitat from road junction	Overall conclusion
Junction 6 - A11 / A1101 Mildenhall Road / A1065 Brandon Road / A1101 Bury Road (A11 Fiveways)	<i>"The impact on the junction to be explored when assessed as part of the forthcoming strategic model"</i>	Yes	Whilst parts of Breckland SPA between the A11/A1065 and the built up area of Mildenhall are directly adjacent to the junction, the closest areas of the SPA of importance to stone curlew are approximately 280 m to the east of the junction	The closest areas of the SPA of importance to stone curlew are not screened from the junction by existing built development or by SALP allocations	<p>Potential for adverse disturbance effects on integrity of Breckland SPA since approximately 200 ha of the areas of the SPA of importance to stone curlew are within 1,000 m of this recommended trunk road upgrade.</p> <p>Suffolk County Council has commissioned evidence (55) that describes four high level options for improvement of this junction which could potentially feed into the Highways England Road Investment Strategy for Road Period 2 (2020 to 2025) "RIS2" program. These include a "do minimum" option (a hamburger junction) that would require minimal increase in the footprint of the junction with improvements focused on the existing road corridor that would lead to improvements to the junction in terms of traffic flow and reduced queuing; such an option would be likely to avoid direct effects on Breckland SPA. Highways England will investigate all potential options (which is likely to involve substantially more than the four examined in the existing evidence report) and hold public consultation events, which will allow all stakeholders the opportunity to comment, before a preferred option is selected. Highways England would develop a preferred project in accordance with their Project Control Framework and involve Natural England and other key stakeholders.</p> <p>The Appropriate Assessment has ruled out likely significant effects from the SIR since there are technical options available that could deliver the necessary highway improvements without direct effects on the Breckland SPA and since the chosen option would be subject to the necessary environmental assessments including HRA.</p>

Junction	Highway improvement suggested by Transport Study	Is junction on a trunk road?	Distance of nearest stone curlew habitat from road junction	Screening of stone curlew habitat from road junction	Overall conclusion
Junction 4 - A1101 Kingsway / Brandon Road / A1101 Bury Road	<i>"No obvious physical improvement scheme has been identified... potential to prioritise sustainable travel or the potential to direct some movements away from the town centre should be explored"</i>	No	The closest areas of the SPA of importance to stone curlew are approximately 1.0 km to the east of the junction	The closest areas of the SPA of importance to stone curlew are screened from the junction by the existing built-up area of Mildenhall as well as by employment allocation SA17(a) in the SALP	Adverse effects on integrity ruled out as junction is not on a trunk road and closest areas of the SPA of importance to stone curlew are more than 400 m from a non-trunk A-road and are screened from the junction by existing built development
Junction 24 - B1112 / Lord's Walk / Earls Field roundabout	<i>"widening of the B1112 north and south arms and the Lord's Walk arm to create two entry lanes onto the junction"</i>	No	The closest areas of the SPA of importance to stone curlew are approximately 940 m to the east of the junction Some areas of the SPA of importance to stone curlew are within 1,500 m of both this improvement and that at Junction 25 - B1112 / Eriswell Road priority 'T' junction	The closest areas of the SPA of importance to stone curlew are screened from the junction by the existing built-up area of Little Eriswell/RAF Lakenheath	Adverse effects on integrity ruled out as junction is not on a trunk or other A-road Potential to combine with minor disturbance from improvement at Junction 25 ruled out because the areas of the SPA of importance to stone curlew are screened from Junction 24 by existing built development so effects from Junction 24 improvement likely to be negligible
Junction 25 - B1112 / Eriswell Road priority 'T' junction	signalisation of the junction with the provision of either one or two lanes of entry on the Eriswell Road arm	No	The closest areas of the SPA of importance to stone curlew are approximately 1.0 km to the east of the junction Some areas of the SPA of importance to stone curlew are within 1,500 m of both this improvement and that at Junction 25 - B1112 / Eriswell Road priority 'T' junction	The closest areas of the SPA of importance to stone curlew are not screened from the junction by existing built development or by SALP allocations	Adverse effects on integrity ruled out as junction is not on a trunk or other A-road Likely to be minor disturbance but potential for this to combine with disturbance from improvement at Junction 24 ruled out because the areas of the SPA of importance to stone curlew are screened from Junction 24 by existing built development so effects from Junction 24 improvement likely to be negligible

Water quantity

Scope of the Appropriate Assessment

- 7.9 Likely significant water quantity effects from the SIR broad distribution of housing could not be ruled out on Breckland SAC/SPA or on Chippenham Fen Ramsar site because the Water Cycle Strategy concluded that the catchments of these European sites included water resource areas impacted by the proposed development.

Approach to Appropriate Assessment

- 7.10 The Appropriate Assessment comprised the more detailed assessment carried out by the Water Cycle Strategy (42) in relation to Breckland SAC/SPA and on Chippenham Fen Ramsar site, as set out below.

Results of Appropriate Assessment

- 7.11 The results of the more detailed assessment for each of the two European sites identified above were as follows.

Breckland SAC and SPA

- 7.12 The Water Cycle Strategy reports that given Breckland SAC/SPA's large size, it is understood to be fed from number of sources – fluvial, surface and groundwater. The review of the Cam and Ely Ouse CAMS in Section 4 of the Water Cycle Strategy identified that no changes have been proposed to abstractions relating to Breckland as part of the Environment Agency's Restoring Sustainable Abstraction programme. In addition to this, during consultation with the Environment Agency and Natural England, no water supply issues that could lead to a detrimental impact were notified to the authors of the Water Cycle Strategy.

Conclusion: Adverse effects on the integrity of Breckland SAC and SPA can be ruled out in relation to water quantity effects of the SIR and SALP.

Chippenham Fen Ramsar site

- 7.13 The Water Cycle Strategy (42) (43) reports that the water balance of Chippenham Fen has been the subject of much research and discussion in recent years but in general, it is supported by: rainfall, flows from Soham Lode/River Chippenham and springs from chalk aquifers below. Water is additionally supplemented through the Lodes Granta Groundwater Support Scheme.
- 7.14 The report 'A Wetland Framework for Impact Assessment of Statutory Sites in Eastern England' (56) was published by the Environment Agency with the aim of summarising some of the key features salient to understanding possible water supply mechanisms. The report describes the water supply of Chippenham Fen as follows:

"The fen surface is fed primarily by rainfall (at least in summer) with some localised seepage of chalk water inwards from dykes and, in places, periodic summer flooding. The possibility of direct chalk water inputs is uncertain – even if these occur, the water table is (on average) well subsurface during the growing period. Rain fed surfaces probably remain base-rich on account of a highly calcareous peat and underlying clays (and perhaps because of episodic flooding)."

- 7.15 Following review of the CAMS and WRMP, the Water Cycle Strategy identified that as part of the Environment Agency's Restoring Sustainable Abstraction programme the latest Chippenham Fen Review of Consents proposed no changes to the existing abstraction licence. It can therefore be concluded that current abstractions licences are not causing negative environmental effects.
- 7.16 In addition, as part of the Water Cycle Strategy, Natural England and the EA were consulted and both parties confirmed that the current mitigation schemes and licences were adequate for Chippenham Fen.

Conclusion: Given the above information it can be concluded that as the development trajectory can be supplied by Anglian Water within existing abstraction licences and no changes to these are

required to protect designated sites, an adverse effect on the integrity of Chippenham Fen Ramsar site can be ruled out.

Water quality

Scope of the Appropriate Assessment

- 7.17 Likely significant water quality effects from the SIR broad distribution and SALP allocations of housing could not be ruled out on Breckland SAC/SPA. This was because the Water Cycle Strategy (42) (43) concluded that planned growth would result in treated sewage discharges from Tuddenham WRC exceeding existing consents. This could potentially have adverse effects on the quality of the receiving water course that may be hydrologically connected to Breckland SAC/SPA due to Breckland's large area and its proximity to Tuddenham.

Approach to Appropriate Assessment

- 7.18 The Appropriate Assessment comprised the more detailed water quality assessment carried out by the Water Cycle Strategy (42) (43) in relation to Tuddenham WRC, as set out below.

Results of Appropriate Assessment

- 7.19 As the Water Cycle Strategy determined that Tuddenham WRC would exceed existing discharge consents it went on to examine the implications for water quality in the receiving watercourse. This was identified as Tuddenham Stream which flows through Breckland SAC/SPA.
- 7.20 The current strategy to achieve Water Framework Directive (WFD) targets in the Anglian region is set out in a River Basin Management Plan (57). Under the WFD, Anglian Water must ensure 'No Deterioration' in current quality of the receiving watercourse as a minimum; Tuddenham Stream is currently assessed as having 'Moderate' WFD ecological potential and 'Good' WFD chemical status. WFD requirements to improve towards Good status (particularly if the growth is not the primary reason for failure) are subject to technical feasibility and assessment of whether costs would be disproportionate.
- 7.21 The industry regulator, Ofwat, has already confirmed funding for Anglian Water to improve the treatment process at Tuddenham WRC to achieve tighter permitted limits for ammonia and phosphorus concentrations in discharges by 1 April 2018 to ensure 'No Deterioration'. The Water Cycle Strategy confirmed that the achievement of all relevant WFD requirements is not compromised by the proposed growth, i.e. that the already-planned tightening of treatment standards by April 2018 will be sufficient to ensure No Deterioration in water quality for Tuddenham Stream.

Conclusion: The growth planned by the SIR and SALP will not, therefore, have adverse effects on the integrity of Breckland SAC/SPA in relation to water quality.

8 Conclusion and next steps

Conclusion

- 8.1 The HRA Screening of the Proposed Submission SIR was able to rule out likely significant effects from the Plan with the exception of the following potential types of effect:
- disturbance from construction or operation of roads;
 - water quantity;
 - water quality;
 - air quality.
- 8.2 Appropriate Assessment in relation to the first three of these potential effects was able to rule out an adverse effect on the integrity of any European site, either alone or in combination with other plans and projects.
- 8.3 In relation to potential air quality effects, likely significant effects on Breckland SAC, Breckland SPA and Rex Graham Reserve SAC cannot be ruled out without further traffic modelling and air quality assessment work. Should this determine that changes in NO_x levels and nitrogen deposition as a result of planned growth may be significant case then more detailed assessment (Appropriate Assessment) and identification of appropriate mitigation may be required. It is understood that the Council intends to commission such further assessment with a view to the findings being available before the end of the consultation period for the Proposed Submission SIR and SALP.

Next steps

- 8.4 In line with the requirements of the Habitats Regulations, representations are being sought from Natural England on the findings of the HRA of the SIR set out in this report. The Council will publish the HRA Report alongside the Proposed Submission consultation document to provide other organisations and the general public with a reference point when commenting on the SIR.

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Appendix 1

Review of other relevant plans and projects

County or district level plans providing for development

Breckland Core Strategy (adopted 2009)
Plan Owner/ Competent Authority: Breckland Council
Related HRA/AA: Habitats Regulation Assessment: Breckland Council Submission Core Strategy and Development Control Policies Document (November 2008) and Habitats Regulation Assessment Breckland Council Site Specific Policies and Proposals Document Preferred options (May 2010).
Summary of Plan proposals: <i>Housing provision:</i> The Core Strategy makes provision for at least 19,100 new dwellings within the period 2001-2026 (Policy CP 1). <i>Employment land provision:</i> The Core Strategy (Policy CP 3) supports the delivery of at least 6,000 jobs in the District to 2021 as identified for Breckland in the Regional Spatial Strategy
Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan Following on from the initial screening assessment the following potential adverse effects were identified and addressed within the appropriate assessment: <ul style="list-style-type: none"> • Direct effects of built development – the HRA recommended that the Core Strategy was amended to ensure that allocations and policies do not promote housing within the 1500m stone curlew avoidance zone and housing within that zone will not normally be supported. In exceptional circumstances, such as where existing development completely makes the new proposal from Breckland SPA/supporting habitat, project level HRA must be able to demonstrate that adverse effects upon the Breckland SPA stone curlew interest feature will be prevented. • Indirect disturbance to Annex 1 birds - Reduction in density of Breckland SPA Annex I bird species (stone curlew, nightjar, woodlark) near to new housing. The HRA recommended that amendments to the Core Strategy were made to include policy wording or supporting text to explain the council is committed to ensuring sustainable levels of recreation in and around the Breckland SPA, and work with partners including Natural England, RSPB and Forestry Commission to develop a strategy that sets out an access management and monitoring programme that provides measures to prevent increasing visitor pressure, and suitable mitigation (should monitoring indicate that the Annex I species are failing to meet conservation objectives due to recreational pressure). • Increased levels of recreational activity resulting in increased disturbance to Breckland SPA Annex I bird species (stone curlew, nightjar, woodlark). • Increased levels of people on and around the heaths, resulting in an increase in urban effects such as increased fire risk, fly-tipping, trampling etc. The HRA recommended amendments to the Core Strategy ensuring the council commits to developing a framework of developer contributions, secured by legal agreement, for any new development where the heaths at Thetford (Barnham Cross Common, Thetford Heath, Thetford Golf Club and Marsh), East Wretham or Brettenham are likely to be used as local greenspace by the new residents of employees. Contributions would be used of implementation of an urban heaths management plan (an individual management plan will be produced for Barnham Cross Common), with the primary purpose of achieving SPA/SAC conservation objectives. • Increased levels of recreation to the Norfolk Coast (including the Wash), potentially resulting in disturbance to interest features to interest features and other recreational impacts. The HRA suggested supporting text of the Core Strategy should recognise that coastal competent authorities promoting visitor access will need to consider the necessary measures required to meet the requirement of the Habitats Regulations and protect the integrity of the coastal European sites, and the possibility that additional housing within the Breckland District may contribute to that visitor pressure, in combination with new housing in other districts. The text should therefore commit to working in partnership with neighbouring authorities and other relevant partners to prevent adverse effects when monitoring indicates it could occur. • Increased water abstraction requirements to meet the additional water supply needs. The HRA suggested that amendments to the Core Strategy should include the requirement for all new developments to install infiltration and attenuation measures to dispose of surface water in accordance with recommended SUDS and any inadequate waste water infrastructure serving new development should be upgraded as required and operational in time to meet the demands of development. Further action was also recommended in order to seek confirmation from the Environment Agency and/or AWS that existing capacity and available headroom in existing sewage systems is adequate to absorb additional discharges from new development, or that upgraded infrastructure is planned and fully committed to within the Core Strategy period. • Water quality and waste water discharge – The HRA recommended amendments to the housing figures within the Core Strategy so that they are taken forward in three categories i.e. those immediately provided for in the plan, those that can only be taken forward with the committed works in place and operational in time to meet the demands of development, and those that cannot be taken forward prior to plan review and the

Breckland Core Strategy (adopted 2009)

revisit of the HRA. Further action to seek the necessary information from the Environment and/or AWS and the consultants commissioned to produce the Breckland Water Cycle Study to enable housing currently promoted to be taken forward under the three categories.

- Increased levels of traffic generated air pollution affecting sensitive features of SAC habitats. The HRA suggested that the Core Strategy was amended to commit to the prevention of road infrastructure improvements or new roads within 200m of the SAC.
- Potential reduction in the density of Habitats Directive Annex I bird species associated with the SPA, due to avoidance of areas close to new roads. The amendments to the Core Strategy suggested in the HRA include the commitment to the prevention of road infrastructure improvements or new roads within 1500m of Breckland SPA/supporting habitat.

In conclusion, the findings of the appropriate assessment and consideration of potential mitigation measures, the direct effects of buildings and road development, the indirect disturbance to Annex 1 birds, the effects of urbanisation and recreational pressure on the north Norfolk Coast, can all be mitigated for with the application of the avoidance/mitigation measures proposed and no further assessment is required. Also, Breckland District Council confirmed road infrastructure requirements proposed in the Core Strategy for Thetford would be focussed on the A11 only as the 1500m buffer zone would prevent any options for road improvements south and east of the town. Due to the effects of air pollution, road improvements within 200m of the Breckland SAC will also be avoided. In addition, it was concluded that further clarification and housing categorisation is required to determine if the impact of water demand, water treatment and discharge requirements, and ability of sewer systems to withstand flooding would not result in adverse effects upon European sites. It was noted that Breckland District Council would obtain necessary information from the Environment Agency and/or AWS and the consultants commissioned to produce the Breckland Water Cycle Study in order to take forward proposed measures. Any potential adverse effects upon the integrity of European sites have either been avoided or mitigated for.

Breckland Draft Local Plan

Plan Owner/ Competent Authority: Breckland Council

Related HRA/AA: Background and Scoping Work relating to Habitat Regulations Assessment of the Breckland Local Plan at Issues & Options (April 2015) and Habitat Regulations Assessment of the Breckland Local Plan Part 1 – Preferred Site Options & Settlement Boundaries (September 2016)

Summary of Plan proposals:

The Breckland Local Plan is currently at 'Preferred Directions' Stage.

Housing provision: Breckland Council's Preferred Directions (December 2015)¹⁴ document was recently consulted upon, and included an initial indication of preferred policy in terms of the nature and spread of new housing development for 14,925 houses over the plan period of 2011 to 2036.

Employment land provision: The Preferred Directions document supports the provision of 67ha of land for employment growth between 2011 and 2036.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

A number of issues associated with the potential development sites were identified in the screening stage of the HRA in relation to Breckland SAC/SPA and Norfolk Valley Fens SAC, including:

- Urban effects, which include trampling, increased flood risk, eutrophication
- Reduced densities of SPA bird species in response to increased development presence
- Recreation disturbance of SPA bird species
- Increased traffic volumes, road improvements and new roads, and air quality deterioration
- Water issues, including flooding, water resources and water quality

The HRA concludes that for the allocation at Watton, adverse effects on the integrity of Breckland SPA cannot be ruled out. The HRA recommends that the boundary of the site be modified or the allocation removed. This is due to the fact that the allocation falls within the 1500m buffer zone of Breckland SPA, which contains stone curlew. The HRA further

¹⁴ Breckland Council (December 2015) Part 1 – Preferred Directions (<http://www.breckland.gov.uk/article/2455/Documents-Library-Publications>)

Breckland Draft Local Plan

concludes that checks relating to air quality/traffic impacts are necessary.

Cambridgeshire and Peterborough Minerals and Waste Core Strategy (adopted 2011)

Plan Owner/ Competent Authority: Cambridgeshire County Council and Peterborough City Council

Related HRA/AA: Cambridgeshire and Peterborough Minerals & Waste LDF Habitats Regulation Assessment: Full Assessment of the Core Strategy DPD Submission Plan.

Summary of Plan proposals:

The following strategic Objectives were identified for sustainable minerals development;

- to contribute to the national, regional and local mineral supply by maintaining an adequate and steady supply of minerals and to meet local requirements at a rate sufficient to enable the delivery of the planned growth in Cambridgeshire and Peterborough
- to provide for the creation and servicing of new sustainable communities and infrastructure in the plan area
- to make allocations for new sand and gravel extraction in areas outside of the Ouse and Nene river valleys to safeguard the economic mineral resource of Cambridgeshire and Peterborough through the designation of Mineral Safeguarding Areas and Mineral Consultation Areas Vision
- to minimise the use of virgin mineral by encouraging the efficient use of materials
- to contribute to meeting strategic objectives relating to sustainable flood risk management for the Cranbrook and Counter Drain catchment, and enhancement habitat creation adjacent to the Ouse Washes
- to maximise biodiversity and community benefits including additional green infrastructure
- to encourage operational practices and restoration proposals which minimise or help to address climate change
- to identify planning policy criteria by which to assess mineral proposals, ensure effective planning control and the appropriate location of mineral extraction
- to safeguard and enhance the distinct landscapes of Cambridgeshire and Peterborough including the wet fens, river valleys, chalk and limestone uplands
- to protect and enhance the biodiversity and historic environment, including designated sites, of Cambridgeshire and Peterborough
- to protect the ground and surface water resources of Cambridgeshire and Peterborough
- to safeguard the residential amenity of new and existing communities in Cambridgeshire and Peterborough
- to ensure that potential emissions are minimised as part of minerals development
- to ensure high quality in terms of design and operation of mineral operations in Cambridgeshire and Peterborough
- to encourage and safeguard sustainable transport of minerals e.g. by rail and water
- to ensure the sustainable use of soils in Cambridgeshire and Peterborough

The following strategic Objectives were identified for sustainable waste development;

- to ensure suitable provision is made through site specific allocations for sustainable waste facilities to manage the waste of Cambridgeshire and Peterborough, London or adjoining authorities
- to develop a network of waste management facilities which will be located having regard to climate change, and key factors including the location and amount of waste arising, and minimising the of movement of waste
- to contribute to ensuring self-sufficiency of the wider area in the management of waste, and to seek self-sufficiency within the Plan area where practical and in accordance with the proximate management of waste
- to ensure that all major new developments undertake sustainable waste management practices
- to use construction and demolition waste in the creation of strategic new enhancement habitat for the internationally important Ouse Washes
- to identify planning policy criteria by which to assess waste development proposals
- to encourage waste management practices which do not incur unacceptable adverse impact on the local and global environment or endanger human health in Cambridgeshire and Peterborough
- to encourage waste management practices which minimise, counter (through off-set arrangements), or

Cambridgeshire and Peterborough Minerals and Waste Core Strategy (adopted 2011)

eliminate contributions to climate change, including the minimisation of greenhouse gases

- to ensure that waste management sites are resilient to the impacts of climate change at the local level
- to ensure high quality of design and operation of waste management facilities in Cambridgeshire and Peterborough
- to encourage sustainable transport of waste by alternative means e.g. rail and water
- to protect the ground and surface water resources of Cambridgeshire and Peterborough
- to safeguard and enhance the distinct landscapes of Cambridgeshire and Peterborough including the wet fens, river valleys, chalk and limestone uplands
- to protect and enhance the biodiversity and historic environment, including designated sites, of Cambridgeshire and Peterborough
- to safeguard the residential amenity of new and existing communities in Cambridgeshire and Peterborough
- to allow scope for new technology and innovation in waste management in the Plan area e.g. exemplar projects in handling and processing of waste
- to determine waste planning applications in the light of the principles for sustainable waste management and the waste hierarchy to ensure the sustainable use of soils
- to safeguard waste management sites from incompatible development that may prejudice the waste use, through the designation of Waste Consultation Areas

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The assessment of each of the minerals and waste policies found that for all proposed policies in the Core Strategy DPD submission Plan no adverse impacts were identified on European or Ramsar sites that cannot be avoided by legally enforceable measures. The assessment of the minerals and waste strategic allocations in the core strategy DPD submission Plan (Block Fen/ Longwood Fen and Addenbrookes) alone and in combination found that no adverse impacts were identified on European or Ramsar sites that cannot legally be avoided by legally enforceable measures.

Cambridgeshire Local Transport Plan 2011-2031 (adopted 2015)

Plan Owner/ Competent Authority: Cambridgeshire County Council

Related HRA/AA: Habitats Regulations Assessment: Stage 1 – Screening, October 2014

Summary of Plan proposals:

The key objectives identified within the Local transport Plan were

- Enabling people to thrive, achieve their potential and improve their quality of life.
- Supporting and protecting vulnerable people.
- Managing and delivering the growth and development of sustainable communities.
- Promoting improved skill levels and economic prosperity across the county, helping people into jobs and encouraging enterprise.
- Meeting the challenges of climate change and enhancing the natural environment.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

- The international sites are not likely to be affected by changes to air pollution due to their distance from the schemes or the nature of the schemes
- Significant effects from changes to hydrology are unlikely because the international sites are either not hydrologically linked to any of the proposed schemes, because they are sufficient distance from any of the schemes or because of the small scale nature of the schemes
- The schemes and strategies within the Plan will not lead to habitat loss within any of the international sites
- The schemes and strategies within the Plan will not lead to habitat loss outside of any of the international sites that could be considered of functional importance to those sites and associated qualifying populations of animals
- Significant effects from disturbance and recreation are not likely at any of the international sites either because of the distance of the sites from the schemes or, where sites lie closer to schemes, recreational

Cambridgeshire Local Transport Plan 2011-2031 (adopted 2015)

effects and other types of disturbance are not listed as vulnerabilities of the site.

- To conclude, the findings of the HRA Screening are that none of the schemes, interventions or strategies contained within the LTP3 will result in likely significant effects on any of the international sites included within this assessment.

St Edmundsbury Core Strategy (adopted 2010)

Plan Owner/ Competent Authority: St Edmundsbury Borough Council

Related HRA/AA: St. Edmundsbury Core Strategy Habitats Regulations Assessment: Screening, September 2010

Summary of Plan proposals:

Housing provision: The Core Strategy makes provision for at least 15,631 new homes within the plan period between 2008 and 2031 (Policy CS1).

Employment land provision: Policy CS9 of the Core Strategy provides for development to support at least 13,000 additional jobs in the borough by 2026.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The HRA concluded that four of the fifteen policies in the Core Strategy would lead to development in the long term; Policies CS1 - St Edmundsbury Spatial Strategy, CS9 - Employment and the Local Economy, CS11 - Bury St Edmunds Strategic Growth and CS12 - Haverhill Strategic Growth.

A potential for significant effects on Breckland SAC/SPA was identified through increased levels of recreational activity, possibly leading to higher levels of disturbance to Breckland SPA Annex I bird species (stone curlew, nightjar and woodlark) and possible degradation of Annex I habitats within Breckland SAC (e.g. through increased levels of trampling and littering).

It identified that the Plan seeks to protect international sites through Policy CS2 (also recognised in Policy CS1). Policy CS2 puts in place a 1.5 km buffer zone around Breckland SPA for stone curlew and a 400 m buffer zone for woodlark and nightjar. It also puts in place a 1.5 km buffer zone around areas outside of the SPA which have supported five or more nesting attempts by stone curlew since 1995 and as such act as supporting stone curlew habitat. In these areas development may be only take place for the re-use of existing buildings and for development which will be completely masked from the SPA by existing development or provided it is demonstrated by an Appropriate Assessment that the development will not adversely affect the integrity of the SPA.

The HRA also made reference to the lower tier Development Plan Documents (DPDs) that will arise from Policies CS1, CS9, CS11 and CS12 including Bury St Edmunds Area Action Plan (AAP), Haverhill AAP and Site Allocations DPDs (including Rural Allocation Sites and the Gypsy and Travellers sites) which will include specific details about the locations of future growth, including the exact location of allocations sites and their proposed land uses. The Plan commits to an HRA being carried out at the development control stage/lower tier development plan stage for any development arising out of these policies. If it cannot be proven that there will no significant impacts on the international sites and/or it is not possible to mitigate/compensate for these impacts the development will not be included in the lower tier plans and/or be granted planning permission.

The assessment concluded that there will be no likely significant effects due to the proposals for development outlined in Policies CS1, CS9, CS11 and CS12 or from any of the other policies included in the Plan. It also concluded that there is no potential for in combination effects as no other current plans or projects that are likely to lead to significant effects on the Breckland SAC/SPA or the Waveney and Little Ouse Valley Fens SAC have been identified, or where impacts have been identified they have been adequately mitigated.

St Edmundsbury Vision 2031 Local Plan Documents (adopted 2014)

Plan Owner/ Competent Authority: St Edmundsbury Borough Council

Related HRA/AA: St Edmundsbury Vision 2031 HRA Screening documents

Summary of Plan proposals:

Site allocation documents for Bury St Edmunds, Haverhill, and the Rural Area.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

St Edmundsbury Vision 2031 Local Plan Documents (adopted 2014)

Bury St Edmunds: HRA Screening concludes that St Edmundsbury's Core Strategy underwent Appropriate Assessment, and was found to be sound following an Examination in Public. The Bury St Edmunds Vision 2031 Local Plan Document adds further detail, but does not increase the amount of development planned for the Bury St Edmunds area. The cumulative effect of all development has already been assessed through the Core Strategy process and does not require further assessment.

Haverhill: HRA Screening concluded that each individual site allocation or policy within the St Edmundsbury Borough Council Haverhill Vision 2031 Local Plan Document is not likely to have a significant effect on any European site, and that no individual site appropriate assessment is necessary. The scale of the allocations, and their location in relation to European sites, means that no in combination effects of individual allocations or policies occur. Concluded that the Haverhill Vision 2031 Local Plan Document would have no likely significant effect on any European site.

Rural Area: HRA Screening concludes that St Edmundsbury's Core Strategy underwent Appropriate Assessment, and was found to be sound following an Examination in Public. The Rural Vision 2031 Local Plan Document adds further detail, but generally does not increase the amount of development planned for the Rural area. The cumulative effect of all development in the Core Strategy has already been assessed and does not require further assessment. Policy RV6 'Ingham' adds a new development of leisure and recreational facilities not described in the Core Strategy. This new development on balance is likely to reduce visitor pressure on European sites and does not add an in combination negative effect upon any European site.

East Cambridgeshire Local Plan (adopted 2015)

Plan Owner/ Competent Authority: East Cambridgeshire District Council

Related HRA/AA: Habitats Directive Assessment Screening Document - updated (September 2013)

Summary of Plan proposals:

Housing provision: The Local Plan makes provision for an agreed target of 11,500 dwellings for East Cambridgeshire which represents an annual rate of 575 dwellings per year during the period 2011-2031.

Employment land provision: The Local Plan aims to maximise opportunities for jobs growth in the district, with the aim of achieving a minimum of 9,200 additional jobs in East Cambridgeshire. Part of this strategy will involve making provision for a deliverable supply of at least 179 ha of employment land for B1/B2/B8 uses, and providing for home working.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The following generic vulnerabilities categories were used to assess the likely effects of the Local Plan:

- Physical Habitat Loss – land take by developments
- Physical Damage – from on-site or off-site activities e.g. change in land management, natural erosion, water abstraction, recreational pressure
- Disturbance – e.g. noise from recreation, industry or transport
- Water Quantity – changes in water quantity due to abstraction
- Contamination / Pollution – water pollution, air pollution, water quality

It was determined that Devil's Dyke SAC is vulnerable to encroachment of other coarse dense grasses, while the main potential effect is increased recreation pressure in association with new housing development.

The Ouse Washes, on the other hand, is vulnerable to water quantity, water quality, salinity, turbidity and sediment. As such, the main potential impacts of the Local Plan on the SAC, SPA and Ramsar are changes in water quality as a result of development, through flooding, increased sediment or increased levels of phosphorus (thought to be derived from sewage treatment plants).

Chippenham Fen and Wicken Fen are vulnerable to physical damage, physical habitat loss and associated increases in pollution. While Breckland SPA and SAC is vulnerable to deposition from the atmosphere and adjacent land.

It was concluded that the Local Plan, alone or in combination with other plans and projects, is unlikely to have any significant effects on any of the European sites.

King's Lynn and West Norfolk Core Strategy (adopted 2011)

King's Lynn and West Norfolk Core Strategy (adopted 2011)

Plan Owner/ Competent Authority: Borough Council of King's Lynn and West Norfolk

Related HRA/AA: King's Lynn and West Norfolk Borough Council's Core Strategy Regulation 25: Local Development Framework Habitats Regulations (Appropriate Assessment) Report - updated (November 2010)

Summary of Plan proposals:

Housing provision: Policy CS01 of the Core Strategy states the plan will identify sufficient land for a minimum of 16,500 new dwellings across the Borough over the period 2001 to 2026: a minimum of 7,510 new dwellings through the regeneration of brownfield land and urban expansion in King's Lynn, at least 2,710 new homes with new allocations of at least 390 house in Downham Market, at least 580 new homes with new allocations of at least 220 dwellings in Hunstanton, considers the provision of at least 550 new dwellings to the east of the town in the area adjacent to Wisbech and makes provision for at least 2,880 new homes within or adjacent to selected Key Rural Service Centres (to be defined in the Site Specific Allocations DPD) in rural and coastal areas.

Employment land provision: Policy CS10 of the Core Strategy aims to facilitate job growth in the local economy, delivering the RSS target of 5,000 additional jobs by 2021 through the provision of employment land as well as policies for tourism, leisure, retail and the rural economy.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

Breckland SPA

Possible Mechanism(s):

- Direct Impacts – Proximity And Disturbance.

Affected Policies: CS01 Housing And Jobs, CS02 The Settlement Hierarchy, CS06 Development in Rural Areas and CS09 Housing Distribution

The HRA suggested the policy is amended to policy take into account disturbance/displacement to stone curlews around Breckland SPA, in line with the approach taken by neighbouring local authorities.

New built development will be restricted within 1500m of the Breckland SPA. Development will be restricted to the re-use of existing buildings or where existing development completely masks the new proposal from Breckland SPA. Beyond the SPA, a 1500m buffer will be applied to areas where the qualifying features are known to exist, or where nesting attempts have been made. In this area, development may be acceptable where suitable alternative habitat (outside the SPA) can be secured.

- Indirect impacts - recreation (woodlark and nightjar).

Affected policies: CS1 Housing And Jobs, CS2 Settlement Hierarchy, CS06 Development in Rural Areas, C09 Housing Distribution and C10 The Economy

The HRA suggested the Core Strategy should be amended to stress a partnership approach to recreation management in the SPA.

It also recommended the inclusion of policy wording or supporting text to explain that the council is committed to ensuring sustainable levels of recreation in and around the Breckland SPA, and work with partners including Natural England, RSPB and Forestry Commission to develop a strategy that sets out an access management and monitoring programme that provides measures to prevent increasing visitor pressure.

Suitable mitigation to be installed should monitoring indicate that the Annex 1 species are failing to meet conservation objectives due to recreational pressure.

North Norfolk Coast SPA/Ramsar

Possible Mechanism(s):

- Recreational disturbance impacts to SPA species, especially Ringed Plover and Little Tern.

Affected policies: CS01 Housing And Jobs, CS02 The Settlement Hierarchy, CS07 Development in Coastal Areas, CS09 Housing Distribution, CS13 Community & Culture.

The HRA suggested core strategy document could be modified to stress a partnership approach to recreation management in the SPA. It recommended that supporting text should be added that recognises that coastal competent authorities promoting visitor access will need to consider the necessary measures required to meet the requirements of the Habitats Regulations and protect the integrity of the coastal European sites, and that it is possible that additional housing within the Borough may contribute to that visitor pressure, in combination with new housing in other districts. The text should therefore commit to working in partnership with neighbouring authorities and other relevant partners to prevent adverse effects when monitoring indicates it could occur. The assessment concluded that the amendments to the Core Strategy satisfactorily address the issues raised, and as a result the above policies will not adversely affect the integrity of the European Sites.

King's Lynn and West Norfolk Site Allocations and Development Management Policies Plan (adopted 2016)

Plan Owner/ Competent Authority: Borough Council of King's Lynn and West Norfolk

Related HRA/AA: Habitats Regulations Assessment of detailed Policies and Sites Plan: Site Allocations and Development Management Policies – Proposed Submission Document (updated September 2015)

Summary of Plan proposals:

Site allocations and DM policies.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

A number of issues associated with the proposed site allocations were identified in the screening stage including loss of supporting habitats, habitat fragmentation, non-specific proximity impacts, increased recreation and leisure pressures, increased use of roads, and the cumulative recreational impacts on sites arising from multiple housing allocations. The most significant of these was considered to be the impacts arising from increased recreation and leisure pressures. Indeed the assessment suggests that visitors likely to cause greatest impacts are local site users, in particular those exercising dogs.

HRA Screening was unable to rule out likely significant effects on:

-
- The Wash SPA/Ramsar – combined effects of increased recreational disturbance from new housing. Combined effects from outside the Borough are likely because of the mixed nature of users (local, day trippers and tourists).
- The Wash and North Norfolk Coast SAC – Combined effects of increased recreational pressure from new housing. Combined effects from outside the Borough are likely because of the mixed nature of users (local, day trippers and tourists).

As such, the HRA asserts that policy should ensure the provision of facilities and an increase/improvement in local greenspace provision over and above the normal allocation. Furthermore, developments should provide a programme of publicity aimed at occupants of the development and other residents highlighting the opportunities for recreation (especially dog-walking) in the vicinity avoiding the Wash SPA/Ramsar and the Wash and North Norfolk Coast SAC. Larger proposals should also be subject to HRA screening.

Additionally, a Natura 2000 Sites Monitoring and Mitigation Strategy has been developed and endorsed by the Borough Council's Cabinet, which will provide funding of monitoring and small scale mitigation of impacts on European sites. It will also provide for a Habitat Mitigation Advisory Panel, which will advise the Borough Council on such measures and provide recommendations for allocation of funds.

The Strategy will contribute to safeguarding the integrity of the European sites and will be monitored and reviewed to ensure the effectiveness of the identified measures. Partnership working is a key component of the Strategy and the Borough Council will continue to pursue a joined up approach with all relevant authorities, organisations and site owners with responsibility for managing the designated European Sites.

The Natura 2000 Sites Monitoring and Mitigation Strategy therefore provides the required certainty that future development will not result in adverse effects on the European.

South Cambridgeshire Local Plan 2011-2031 (submitted 2014)

Plan Owner/ Competent Authority: South Cambridgeshire District Council

Related HRA/AA: South Cambridgeshire Local Plan Submission Habitats Regulations Assessment Screening Report (March 2014)

Summary of Plan proposals:

South Cambridgeshire District Council has carried out additional work on their Local Plan, to address issues raised by the Planning Inspectors during examination.

Housing provision: Proposed modification to the Local Plan include the provision of 19,500 new homes, including affordable housing and 85 Gypsy & Traveller pitches.

Employment land provision: The Local Plan makes provision for 22,000 additional jobs to support the Cambridge Cluster and provide a diverse range of local jobs.

South Cambridgeshire Local Plan 2011-2031 (submitted 2014)

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The following possible effects were identified;

- Ouse Washes – additional sewerage discharge, additional flow in sewerage drain network
- Breckland SAC/SPA – impacts on groundwater-dependent terrestrial ecosystems (GWDYE) and the species they support
- Devils Dyke – recreation; additional visitor pressure resulting in trampling and changes to vegetation structure
- Fenland – recreation; additional visitor pressure resulting in trampling and changes to vegetation structure, additional sewage discharge, impacts on water availability
- Portholme SAC – changes in water level and water quality

There are unlikely to be significant effects on the identified European sites as a consequence of the policies and allocations as worded in the South Cambridgeshire Local Plan Submission. Therefore no policies require advancement to appropriate assessment. The plan is unlikely to have significant effects on the identified European sites when considered in combination with other plans and projects.

Suffolk Minerals Core Strategy DPD (adopted 2008)

Plan Owner/ Competent Authority: Suffolk County Council

Related HRA/AA: Suffolk Minerals Core Strategy Appropriate Assessment of Potential Impacts of Minerals Policies on Natura 2000 Sites (September 2007)

Summary of Plan proposals:

The key objectives identified within the minerals Core Strategy were:

- to ensure, so far as practicable, the prudent, efficient and sustainable use of minerals and recycling of suitable materials, thereby minimising the requirement for new primary extraction;
- to conserve mineral resources through appropriate domestic provision and timing of supply;
- to safeguard mineral resources as far as possible;
- to prevent or minimise production of mineral waste;
- to secure working practices which prevent or reduce as far as possible, impacts on the environment and human health arising from the extraction, processing, management or transportation of minerals;
- to protect internationally and nationally designated areas of landscape value and nature conservation importance from minerals development, other than in the exceptional circumstances detailed in paragraph 14 of this statement;
- to secure adequate and steady supplies of minerals needed by society and the economy within the limits set by the environment, assessed through sustainability appraisal, without irreversible damage;
- to maximise the benefits and minimise the impacts of minerals operations over their full life cycle;
- to promote the sustainable transport of minerals by rail, sea or inland waterways;
- to protect and seek to enhance the overall quality of the environment once extraction has ceased, through high standards of restoration, and to safeguard the long-term potential of land for a wide range of after-uses;
- to secure closer integration of minerals planning policy with national policy on sustainable construction and waste management and other applicable environmental protection legislation; and
- to encourage the use of high quality materials for the purposes for which they are most suitable.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The following potential sources of impact to the Natura 2000 sites that may arise from the construction or operation of these types of facility were identified within the assessment:

- Physical disturbance of sites;
- Flooding & water quality, including extraction below the water table;
- Noise from road traffic and operation of the plants;

Suffolk Minerals Core Strategy DPD (adopted 2008)

- Air emissions from road traffic (including dust); and
- Human presence.

The assessment concluded that physical disturbance of Natura 2000 sites for the purposes of mineral extraction would not normally be acceptable. However, given that minerals development is only a temporary use of land, restoration to a very high standard, with net environmental and biodiversity gains, may mean that some development could be acceptable.

Any increase in flooding caused by new mineral sites will be unlikely to be acceptable to the Environment Agency. Similarly, a decline in water quality is also likely to be unacceptable, so there should not be any adverse impacts on water-dependent SPAs and SACs in Suffolk.

The assessment determined that appropriately mitigated, noise from road traffic, operation of the plants and minerals developments is unlikely to have a material adverse impact on any Natura 2000 sites.

Also, disturbance to Natura 2000 sites through human presence on minerals sites is only likely to be a factor where the minerals sites are located in, or very close to, the Natura 2000 site. Policy 3: Cumulative environmental impacts and phasing of mineral workings, Policy DC2: Protection of regionally and locally recognised sites of ecological and geological interest and promotion of biodiversity and protection of priority habitats, Policy DC5: Public rights of way and Policy DC8: Progressive working and restoration would mitigate the adverse impacts of disturbance caused by humans.

In conclusion, the Minerals Core Strategy aims to have a positive impact on biodiversity in the long term through appropriate restoration schemes and beneficial after-uses. For example, the creation of new wetland habitat could go towards meeting the County's Priority Habitat Action Plan targets of at least 445 ha of new reed-bed by 2023 and the creation of new wet woodlands.

Suffolk Waste Core Strategy DPD (adopted 2011)

Plan Owner/ Competent Authority: Suffolk County Council

Related HRA/AA: Habitats Regulations Assessment : Suffolk County Council Waste Core Strategy (Minerals & Waste Development Framework); March 2010

Summary of Plan proposals:

The key objectives identified within the waste Core Strategy were:

- To provide policies and identify locations for the management of the quantities of waste apportioned to Suffolk through the East of England Plan.
- To facilitate sustainable waste management by minimising waste as a priority and encouraging communities to take responsibility for the waste they produce through better education via public consultation.
- To facilitate the efficient transportation of waste throughout Suffolk.
- To facilitate the driving of waste up the hierarchy through the provision of sufficient suitable waste management facilities for waste recycling, composting and transfer.
- To facilitate equality of public access to Household Waste Recycling Centres.
- To encourage waste management facilities and practices that do not endanger human health and to ensure that adverse impacts on residential amenity and the quality of life can be prevented or suitably mitigated.
- To minimise adverse impacts on air quality.
- To minimise adverse impacts on landscape quality and the built and historic environment.
- To minimise adverse ecological and geological/geomorphological impacts, and to encourage opportunities for restoration, creation and enhancement of wildlife habitats.
- To minimise adverse impacts on water quality.

To facilitate proposals and encourage waste management practices that reduce the effects of the emissions of greenhouse gases and deliver renewable energy production where feasible and appropriate and mitigate against the impacts of climate change.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The policies within the Waste Core Strategy can achieve their aims and objectives and not result in any significant impacts either alone or in combination upon any features of European Interest on any Natura 2000 Site in Suffolk or the neighbouring Counties. Because of Suffolk County Council's commitments to the conservation of Biodiversity and the explicit Objectives 9 and 10 in the Waste Core Strategy: "To minimise adverse ecological and

Suffolk Waste Core Strategy DPD (adopted 2011)

geological/geomorphological impacts and to encourage opportunities for restoration, creation and enhancement of wildlife habitats” and “To minimise adverse impacts upon water quality” together with an on-going consultation process with the National nature conservation body (Natural England), it is considered that that any possible negative effects on the integrity of European Sites as a result of the policies within this Waste Core Strategy will be considered, mitigation sought and compensation agreed in order to reduce or negate any negative impacts.

Suffolk Local Transport Plan 2011-2031

Plan Owner/ Competent Authority: Suffolk County Council

Related HRA/AA: Regulation 61 Assessment for Suffolk Local Transport Plan 3

Summary of Plan proposals:

The plan includes a the delivery of a number of strategic transport improvements including:

- dualling of the A11 between Barton Mills and Thetford
- the Ipswich major scheme, 'Ipswich- Transport fit for the 21st Century'
- the Beccles rail loop allowing increased frequency of trains between Ipswich and Lowestoft
- the Beccles southern relief road
- the Lowestoft northern spine road to help remove through traffic from the town
- Ipswich rail chord to improve freight connections from Felixstowe
- Copdock A14/A12 junction improvements.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The matters of concern for each of the relevant European sites include:

- Breckland SPA – impacts on internationally important populations of Stone-curlew, woodlark and nightjar and disturbance of these Annex 1 birds
- Breckland SAC – impacts on habitats of internationally important populations of Stone-curlew, woodlark and nightjar and disturbance of these Annex 1 birds

The conclusion of the assessment of the draft LTP3 was that it would have a likely significant effect, alone or in combination with other plans and projects. The only scheme identified as having potential to lead to a significant effect (habitat loss, disturbance and pollution) on a European site was the Brandon relief road LTP3 scheme. In order to remove any likely significant effect on the conservation objectives of Breckland SPA, a project level HRA would be required for the Brandon Relief Road at the design stage. For Natural England to approve such a document, adequate mitigation would need to be sought and compensation agreed in order to reduce or negate any negative impacts. As a result of the HRA, revisions to the LTP3 were made to avoid likely significant effects on any European Sites before it was adopted by SCC. The re-assessment concluded that the direct effect of road improvements and the indirect effect of disturbance to Annex I bird could be mitigated for with the application of the avoidance/mitigation measures proposed (a detailed package of mitigation and monitoring measures to ensure the LTP schemes do not result in impacts on European sites were to be considered at the project level).

Major infrastructure projects¹⁵

A14 Cambridge to Huntingdon Improvement Scheme

Plan Owner/ Competent Authority: Highways England

Related HRA/AA: Report On The Implications For European Sites Proposed A14 Cambridge to Huntingdon Improvement Scheme (October 2015)

Summary of Plan proposals: A development consent order for A14 Cambridge to Huntingdon Improvement Scheme was taken in May 2016.

¹⁵ National Infrastructure Planning website <http://infrastructure.planningportal.gov.uk/>

A14 Cambridge to Huntingdon Improvement Scheme

The scheme comprises:

- widening of the A1 between Brampton and Alconbury over a length of approximately 5.6 km (3½ miles) from the existing two lane dual carriageway to a three lane dual carriageway. Between Alconbury and Brampton Hut, this would generally be achieved by widening on the east side of the existing road;
- between Brampton and Brampton Hut a new road would be constructed to the west of the existing A1 which would become the new A1. This would enable the existing carriageway over this length to form part of the new A14 Huntingdon Southern Bypass. A local access road approximately 2.5 km (1.6 miles) would link the Ellington Junction with Woolley Road;
- a new Huntingdon Southern Bypass of approximately 20 km (12½ miles) in length, which would provide a two lane dual carriageway between Ellington and the A1 at Brampton and a three lane dual carriageway between Brampton and Swavesey. The new bypass would cross over the River Great Ouse and the East Coast Mainline railway. It would include junctions with the A1 at Brampton and with the A1198 at Godmanchester;
- downgrading the existing A14 trunk road (de-trunking to county road status) over approximately 21 km (13 miles) between Brampton Hut and Swavesey, as well as between Alconbury and Spittals interchange;
- Huntingdon Town Centre improvements, to include the closure and demolition of the A14 viaduct over the East Coast Mainline railway and Brampton Road in Huntingdon. A new link road would be constructed to improve accessibility into Huntingdon from the south and east by connecting the old A14 directly with Huntingdon Ring Road near the bus station and by constructing a new link road from Brampton Road to connect with the A14 to the west. As such, a through route for light vehicles would be maintained;
- widening of the existing A14 over approximately 7.9 km (5 miles) to provide three lanes in each direction between Swavesey and Report to the Secretary of State 6 A14 Cambridge to Huntingdon Bar Hill and four lanes in each direction between Bar Hill and Girton;
- widening of a 2.5 km (1½ mile) section of the Cambridge Northern Bypass between Histon and Milton;
- improvement of existing A14 junctions at Swavesey, Bar Hill and Girton; to improve the capacity of the road, ensure compatibility with adjacent proposed developments such as Northstowe and provide improved connections for non-motorised users;

a new local access road following the route of the A14 over a distance of approximately 8 km (5 miles), including construction of a dual carriageway link between the existing A14 near Fen Drayton and Swavesey junction and a single carriageway between Swavesey and Girton. The road would provide a route for local traffic between Cambridge and Huntingdon as well as providing access to properties and businesses along the corridor.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

Five European sites were screened prior to examination including Ouse Washes SAC/SPA/Ramsar. The applicant concluded that there would be no likely significant effect on the Ouse Washes SAC/SPA/Ramsar and its qualifying features.

Kings Lynn B Connection Project

Plan Owner/ Competent Authority: National Grid

Related HRA/AA: Habitats Regulations Assessment – No Significant Effects Report (July 2012)

Summary of Plan proposals: A development consent order for Kings Lynn B Connection Project – a 2.8km 400 kilovolts overhead electric line - was taken in December 2013. The Project is required to make a connection from Centrica's approved King's Lynn B 981 MV combined cycle gas turbine power station and substation to the national grid high-voltage electricity transmission network.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The HRA concludes that the proposed 400Kv connection from King's Lynn B Power Station to the existing 400Kv route is not likely to have a significant effect on either the Ouse Washes SPA or The Wash SPA. This view is confirmed by Natural England.

Palm Paper 3 CCGT Power station Kings Lynn

Plan Owner/ Competent Authority: Palm Paper Ltd

Palm Paper 3 CCGT Power station Kings Lynn

Related HRA/AA: Habitat Regulations Assessment, No Significant Effects Report (August 2014)

Summary of Plan proposals: A development consent order for Palm Paper 3 CCGT Power station Kings Lynn – a 162 megawatt Combined Cycle Gas Turbine - was taken in February 2016.

The Site comprises two separate areas. When built, the CCGT plant will occupy an area of 3,500m². Some areas will also be required during the construction phase for contractors' working areas and storage, and this will be contained within the present Palm Paper premises. This area is approximately 7,000m² in size.

In summary, the Proposed Development will comprise:

- Fuel supply
- Gas turbine-generator set
- Heat Recovery Steam Generator (HRSG)
- Steam turbine and steam turbine generator
- Condensers
- Water treatment plant including associated ancillary systems
- Transformers
- Switchyard
- Fire protection system

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The HRA concludes that the only potential mechanism through which the project may act upon The Wash and North Norfolk Coast SAC and the Wash SPA at such a distance (circa 6.0km), and the only one that has been raised as a concern, is through the aerial emissions generated by the proposed development.

It was determined that by taking into account the avoidance and mitigation measures incorporated into the design of the CCGT it could be concluded that the proposed development would have no adverse effect on any of the Natura 2000 sites relevant to this document.

Progress Power Station

Plan Owner/ Competent Authority: Progress Power Limited

Related HRA/AA: Habitat Regulations Screening Assessment: No Significant Effects Report (February 2014)

Summary of Plan proposals: A development consent order for Progress Power Station – a Gas Fired Power Station - was taken in July 2015.

The Project consists of three main elements: The Power Generation Plant, the Gas Connection, and the Electrical Connection.

- A new Power Generation Plant, a Single Cycle Gas Turbine gas fired power generating station capable of providing up to 299 MW, incorporating up to five gas turbine generators (GTG) with up to five exhaust gas flue stacks.
- A new electrical connection, (referred to as the Electrical Connection) to export electricity from the Power Generation Plant to the National Grid Transmission System. This element incorporates a new underground cable circuit connection, and a new access road, with a new road junction off the A140 (the A140 Junction), and a new Electrical Connection Compound comprising a new substation and sealing end compound; and
- A new gas pipeline connection to bring natural gas to the Power Generation Plant from the National Grid Transmission System in the vicinity of the Project Site. This element incorporates an Above Ground Installation at its southern end and a new access road off Potash Lane.

Conclusions on potential effects of relevance to European sites within scope of HRA of Forest Heath Local Plan

The HRA concludes that there will be no likely significant effects either alone or 'in combination' on any of the Natura 2000 sites relevant to this document.

Other relevant projects

Planning consent has been sought from FHDC or a pre-application EIA Scoping request consulted on for a number of developments within the District which have not yet been developed and which are not included as allocations in the SALP but which are large enough to present a credible risk that they might have significant effects in combination with the SIR.

Each of the projects and any associated project level HRA have been reviewed for its potential to have significant effects on European sites in combination with the SIR, following the methodology described in Chapter 4.

FHDC Local Plan ref. (at Options stage)	Planning application/ EIA Scoping Request ref.	Site address	Outline of current proposal	Is site in a location requiring project level HRA under Core Strategy Policy CS2?	Current position in relation to HRA
Brandon					
B/17	DC/15/1072/OUT	Land to West of Brandon	Outline application for up to 9,264m ² gross external area floor space (in total) for class A1, A3, A4, C1, D1 and sui generis use. Such development to include up to 1,650 dwellings ; a relief road; public transport facilities; pedestrian, cyclist and vehicular ways; green infrastructure; groundworks; drainage works; provision and/or upgrade of services and related media and apparatus; miscellaneous ancillary development and associated engineering and other operations.	Yes – site is within the 1,500 m stone curlew constraint zone and the 400 m woodlark / nightjar constraint zone for Breckland SPA	There is an ES supporting the application and appendix 11.2 is a report to inform a habitats regulations assessment. A project level HRA has not yet been completed as there is insufficient information; the applicant is in discussion with NE. Conclusion: Since there is not yet sufficient information to complete project level HRA, FHDC should carry out such HRA when the information becomes available and refuse permission if adverse effects on the integrity of a European site cannot be ruled out in combination with other plans and projects, including with the SIR and SALP.
Newmarket					
N/14	DC/13/0408/OUT	Hatchfield Farm, Fordham Road	Current ongoing high court challenge in relation to outline planning application for residential development of up to 400 dwellings plus associated open space (including areas of habitat enhancement), foul and surface water infrastructure, two accesses onto the A142, internal footpaths, cycle routes and estate roads	No	Application was called in by Secretary of State who refused the application. The Secretary of State agreed with the Inspector that significant effects from the proposed development either alone or in combination with other plans and projects can be ruled out. (58) Conclusion: No potential for minor effects in which could be significant in combination with the SIR or SALP. (History: An appeal for mixed use including 1,200 homes and 5 ha of employment land at this site was dismissed in March 2012. The Secretary of State agreed with the Inspector that an Appropriate Assessment was required, as there was some doubt

FHDC Local Plan ref. (at Options stage)	Planning application/ EIA Scoping Request ref.	Site address	Outline of current proposal	Is site in a location requiring project level HRA under Core Strategy Policy CS2?	Current position in relation to HRA
					whether there would be a significant effect on the ecology of Chippenham Fen. This conclusion was based on the uncertainty of water supply to the proposed development after 2019 when current water resources were expected to be fully utilised, and it was recognised that the area was already over abstracted. The HRA placed reliance on the need for Anglian Water to obtain the necessary licences for additional abstraction.)
N/A	DC/16/2063/FUL	New Gallops, Hamilton Road' Newmarket	Artificial 'uphill training' gallop with lagoon, car park, access and all associated works	No	<p>Application is supported by an ES. NE has confirmed that there is currently not enough information to complete the HRA.</p> <p>Conclusion: Since there is not yet sufficient information to complete project level HRA, FHDC should carry out such HRA when the information becomes available and refuse permission if adverse effects on the integrity of a European site cannot be ruled out in combination with other plans and projects, including with the SIR and SALP.</p>
Lakenheath					
L/15	DC/14/2042/OUT	Land North of Broom Road, Covey Way and Maids Cross Hill	Outline Planning Application (All matters reserved) Reduction in dwelling numbers from 132 (originally proposed) to 110 dwellings	Yes – site is within 1,500 m of 2011-2015 stone curlew nesting attempts grid squares associated with Breckland SPA	<p>Natural England has confirmed (planning consultation response to FHDC dated 6/10/2016) that LSE on Breckland SPA can be screened out for the amended scheme alone, having reviewed the locations of actual stone curlew nest records (many of these are in non-accessible areas), the distance of the scheme from the SPA, and screening from the SPA.</p> <p>Natural England also assessed the potential in combination effect on nesting density of stone curlew should all proposals on the east side of Lakenheath come forward. Due to the distance of Lakenheath from the SPA</p>

FHDC Local Plan ref. (at Options stage)	Planning application/ EIA Scoping Request ref.	Site address	Outline of current proposal	Is site in a location requiring project level HRA under Core Strategy Policy CS2?	Current position in relation to HRA
					<p>and the position of all stone curlew records, the effect in combination is also not likely to be significant.</p> <p>Conclusion: Potential for this project to have minor effects on nesting density of stone curlew population of Breckland SPA but the effect in combination with other development proposed at Lakenheath by the SIR and SALP is not likely to be significant.</p>
L/22	DC/14/2073/FUL	Land Adjacent 34 Broom Road	120 dwellings together with associated access, landscaping and open space, as amended. To be decided at appeal due to non-determination.	Yes – site is within 1,500 m of 2011-2015 stone curlew nesting attempts grid squares associated with Breckland SPA	<p>Natural England's consultation response to the original proposal for 147 dwellings (dated 16/12/2014) highlighted the need for an assessment of potential effects on stone curlew nesting attempts area functionally linked to Breckland SPA.</p> <p>Subsequent correspondence from Natural England (email to FHDC dated 10/5/2016) confirmed that none of the applications following applications to the east of Lakenheath would significantly affect stone curlew associated with Breckland SPA:</p> <ul style="list-style-type: none"> • DC/14/2096/HYB (land north of Station Road – up to 375 dwellings and school); • DC/14/2073/FUL (land at Broom Road – 120 dwellings); • DC/14/2042/OUT (Land North Of Broom Road, Covey Way And Maids Cross Hill - up to 132 dwellings) • F/2013/0345/OUT (Rabbit Hill Covert, Station Road - up to 81 dwellings). <p>As noted for DC/14/2042/OUT above, Natural England has also ruled out the possibility of significant in combination effects on Breckland SPA from these applications.</p>

FHDC Local Plan ref. (at Options stage)	Planning application/ EIA Scoping Request ref.	Site address	Outline of current proposal	Is site in a location requiring project level HRA under Core Strategy Policy CS2?	Current position in relation to HRA
					Conclusion: Potential for this project to have minor effects on nesting density of stone curlew population of Breckland SPA but the effect in combination with other development proposed at Lakenheath by the SIR and SALP is not likely to be significant.
Other settlements					
N/A	DC/16/1360/OUT	Land at Little Eriswell	Outline Planning Application (Means of Access to be considered) - (i) Up to 550 dwellings (ii) Primary School (iii) Retail unit (iv) Associated open and play space, allotments, landscaping and infrastructure works	Yes – site is within the 1,500 m stone curlew constraint zone	Current planning application is supported by an ES. Natural England has confirmed that there is currently not enough information to complete the HRA Conclusion: Since there is not yet sufficient information to complete project level HRA, FHDC should carry out such HRA when the information becomes available and refuse permission if adverse effects on the integrity of a European site cannot be ruled out in combination with other plans and projects, including with the SIR and SALP.
N/A	East Cambridgeshire District 16/01196/SCOPE	Land Southwest Of 98 To 138 Station Road Kennett Suffolk	SCOPING OPINION 500 dwellings , new primary school, other community facilities, strategic green infrastructure and commercial development opportunities	Yes – site is within 1,500 m of 2011-2015 stone curlew nesting attempts grid squares associated with Breckland SPA (although it would not be subject to CS2 as it is in the neighbouring authority of East Cambridgeshire)	Natural England consultation response indicates the need to assemble a variety of information for HRA but this has not yet been carried out. Conclusion: Since there is not yet sufficient information to complete project level HRA, East Cambridgeshire District Council should carry out such HRA when the information becomes available and refuse permission if adverse effects on the integrity of a European site cannot be ruled out in combination with other plans and projects, including with the SIR and SALP.

Appendix 2

European sites information

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
Breckland SPA Low rainfall and free-draining soils led to the development of dry heath and grassland communities. Much of Breckland was planted with conifers through the 20th century, and elsewhere arable farming is the predominant land use. The remnants of dry heath and grassland that have survived these changes support heathland-breeding birds, where grazing by sheep and rabbits is sufficiently intensive to create short turf and open ground. These species have also adapted to live in forestry and arable habitats.	Article 4.1, Annex I species: Breeding populations of stone curlew (60.1% GB breeding population), nightjar (12.2% GB breeding population) and woodlark (28.7% GB breeding population).	Current pressures Lack of ground disturbance, under-grazing and inappropriate scrub and weed control. Planning permission: general – development, especially for housing, roads and solar farms. Potential future threats Inappropriate forestry and woodland management. Stone curlew monitoring and intervention – vulnerability of nests and chicks to farming operations. Air pollution: impact of atmospheric nitrogen deposition. Public access / disturbance – does not appear to be currently significantly affecting bird populations but impacts of increased recreational activities uncertain. Climate change. Inappropriate pest control – predation on ground-nesting SPA birds.	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: <ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features; and • The distribution of the qualifying features within the site. 	None.
Breckland SAC	Annex I habitats: inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands; natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> -type vegetation; European dry heaths; semi-	Current pressures Lack of ground disturbance, under grazing, inappropriate scrub and weed control, inappropriate cutting/mowing. Water pollution: There has been a considerable loss of	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by	Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands for which this is the only known outstanding locality in the UK and is considered to be rare as its total extent is estimated to be less than 1,000

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
	<p>natural dry grasslands and scrubland facies on calcareous substrates; alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>.</p> <p>Annex II species:</p> <p>Great Crested Newts <i>Triturus cristatus</i>.</p>	<p>aquatic species in Ringmere and high nutrient levels recorded in previous water analysis suggest nutrients are impacting the mere. Langmere too shows signs of nutrient enrichment.</p> <p>Changes in species distributions.</p> <p>Potential future threats</p> <p>Air pollution: impact of atmospheric nitrogen deposition.</p> <p>Public access / disturbance – SAC features may be affected through eutrophication (dog fouling, unauthorised fires) and disturbance of soils.</p> <p>Climate change.</p> <p>Habitat fragmentation.</p>	<p>maintaining or restoring;</p> <ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats and habitats of qualifying species; The structure and function (including typical species) of qualifying natural habitats; The structure and function of the habitats of qualifying species; The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; The populations of qualifying species; and, The distribution of qualifying species within the site. 	<p>hectares.</p>
<p>Rex Graham Reserve SAC</p> <p>This is a disused chalk pit with developing dry grassland characterised by false oat-grass <i>Arrhenatherum elatius</i>. The site has been selected as it supports the largest population of military orchid <i>Orchis militaris</i> in the UK, comprising more than 95% of the current total population.</p>	<p>Annex I habitats:</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (important orchid sites)</p>	<p>Current pressures</p> <p>Changes in species distributions.</p> <p>Potential future threats</p> <p>Air pollution: risk of atmospheric nitrogen deposition – exceeds site-relevant critical load with risk of harmful effects.</p> <p>Habitat fragmentation.</p> <p>Deer.</p> <p>Invasive species.</p> <p>Public access / disturbance – ongoing threat to site features from illegal plant collection.</p>	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats; The structure and function (including typical species) of qualifying natural 	<p>Managed by Suffolk Wildlife Trust</p>

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
			habitats; and <ul style="list-style-type: none"> The supporting processes on which qualifying natural habitats rely. 	
Devil's Dyke SAC (on FH boundary, part in FH and part in East Cambridgeshire DC) Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i> .	Annex I habitats: Semi-natural dry grasslands and scrubland facies on calcareous substrates (important orchid sites)	Current pressures Inappropriate scrub control Potential future threats Air pollution: impact of atmospheric nitrogen deposition.	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring: <ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats; The structure and function (including typical species) of qualifying natural habitats; and The supporting processes on which qualifying natural habitats rely. 	None.
Fenland SAC (outside FH) The Fenland SAC is comprised of three fenland Sites of Special Scientific Interest: Woodwalton Fen, Wicken Fen and Chippenham Fen. Each site generally consists of standing water bodies, ditch systems, bogs, marshes and broad-leaved woodland carr.	Annex I habitats: Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) Annex II species: Spined Loach (<i>Cobitis taenia</i>), Great Crested Newt (<i>Triturus cristatus</i>)	Current pressures Water pollution – nutrient enrichment of Chippenham Fen component, fed from a mixture of groundwater, rainfall and surface runoff. Hydrological changes related to public water supply abstraction. Air pollution: impact of atmospheric nitrogen deposition Potential future threats None identified.	Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring; <ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats and habitats of qualifying species; The structure and function (including typical species) of 	National Trust undertaking remedial land management work.

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
			<p>qualifying natural habitats;</p> <ul style="list-style-type: none"> • The structure and function of the habitats of qualifying species; • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; • The populations of qualifying species; and, <p>The distribution of qualifying species within the site.</p>	
<p>Ouse Washes SAC, SPA and Ramsar site (outside FH)</p> <p>An extensive area of seasonally flooding wet grassland ('washland') with a diverse and rich ditch fauna and flora located on a major tributary of The Wash. The washlands support both breeding and wintering waterbirds.</p>	<p><u>SAC qualifying species</u></p> <p>Annex II: Spined loach <i>Cobitis taenia</i></p> <p><u>SPA qualifying species</u></p> <p>Article 4.1, Annex 1 species (breeding season):</p> <p>Ruff <i>Philomachus pugnax</i>; Spotted Crake <i>Porzana porzana</i></p> <p>Annex I species (over winter): Bewick's Swan <i>Cygnus columbianus bewickii</i>; Hen Harrier <i>Circus cyaneus</i>; Ruff <i>Philomachus pugnax</i>; Whooper Swan <i>Cygnus cygnus</i>,</p> <p>Article 4.2 (migratory species – breeding season):</p> <p>Black-tailed Godwit <i>Limosa limosa limosa</i>; Gadwall <i>Anas strepera</i>; Shoveler <i>Anas clypeata</i></p> <p>Article 4.2 (migratory species – over winter):</p>	<p>Current pressures</p> <p>Inappropriate water levels – interest features are being adversely affected by increased flooding.</p> <p>Potential future threats</p> <p>Water pollution.</p>	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving...</p> <p>- the Favourable Conservation Status of its Qualifying Features (SAC), or</p> <p>- the aims of the Wild Birds Directive (SPA)</p> <p>...by maintaining or restoring:</p> <ul style="list-style-type: none"> • The extent and distribution of the habitats of qualifying species/features • The structure and function of the habitats of the qualifying species/features • The supporting processes on which 	<p>Long term tidal strategy - regular problems summer flooding- severe siltation of Great Ouse River. Discharges into River Lark, River Little Ouse (and various other smaller watercourses in Forest Heath) could drain into Great Ouse River and to Ouse Washes SPA/SAC. Large land holdings by RSPB, Cambridgeshire Wildlife Trust and Wetlands and Wildfowl Trust.</p>

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
	<p>Black-tailed Godwit <i>Limosa limosa islandica</i>; Gadwall <i>Anas strepera</i>; Pintail <i>Anas acuta</i>; Pochard <i>Aythya farina</i>; Shoveler <i>Anas clypeata</i>; Wigeon <i>Anas Penelope</i></p> <p>Article 4.2 Assemblage qualification: regularly supports at least 20,000 waterfowl</p> <p><u>Ramsar criteria</u></p> <p>1. Extensive area of seasonally-flooding washland</p> <p>2. Nationally scarce aquatic plants, relict invertebrates, assemblage of nationally rare breeding waterfowl.</p> <p>5. Bird assemblages of international importance.</p> <p>6. Water birds for potential future consideration</p>		<p>the habitats of qualifying species/features rely</p> <ul style="list-style-type: none"> • The populations of qualifying species/features, and, • The distribution of qualifying species/features within the site. 	
<p>Redgrave and South Lopham Fens Ramsar (outside FH)</p> <p>The site is an extensive example of lowland base-rich valley, remarkable for its lack of fragmentation. The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires, such as dry birch woodland, scrub and carr, floristically-rich fen grassland, mixed fen, wet heath and areas of reed and saw sedge. The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i>.</p>	<p><u>Ramsar criteria</u></p> <p>1. The site is an extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation.</p> <p>2. The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i>.</p> <p>3. The site supports many rare and scarce invertebrates, including a population of the fen raft spider <i>Dolomedes plantarius</i>. The diversity of the site is due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.</p>	<p>Current pressures</p> <p>Inappropriate scrub control</p> <p>Inappropriate water levels - Historical evidence suggests that water levels have significantly dropped over time and as a result habitats and features have been damaged.</p> <p>Air Pollution: impact of atmospheric nitrogen deposition - Nitrogen deposition exceeds site relevant critical loads.</p> <p>Water pollution - Poor water quality arising from agricultural run-off particularly from nearby outdoor poultry and pig units causes nutrient enrichment and can lead to a reduction in</p>		

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
		<p>biodiversity.</p> <p>Potential future threats</p> <p>None identified</p>		
<p>The Wash SPA/Ramsar (outside FH)</p> <p>The largest estuarine system in the UK, fed by the rivers Witham, Welland, Nene and Great Ouse that drain much of the east Midlands of England.</p> <p>The Wash comprises very extensive saltmarshes, major intertidal banks of sand and mud, shallow waters and deep channels.</p> <p>The intertidal mudflats and saltmarshes represent one of Britain's most important winter feeding areas for waders and wildfowl outside of the breeding season. The saltmarsh and shingle communities are of considerable botanical interest and the mature saltmarsh is a valuable bird breeding zone. Also very important as a breeding ground for Common seals.</p>	<p><u>SPA qualifying species</u></p> <p>Article 4.1, Annex 1 species (breeding season):</p> <p>Common Tern <i>Sterna hirundo</i>; Little Tern <i>Sterna albifrons</i>; Marsh Harrier <i>Circus aeruginosus</i></p> <p>Article 4.1, Annex 1 species (over winter):</p> <p>Avocet <i>Recurvirostra avosetta</i>; Bar-tailed Godwit <i>Limosa lapponica</i>; Golden Plover <i>Pluvialis apricaria</i>, Whooper Swan <i>Cygnus cygnus</i></p> <p>Article 4.2 (migratory):</p> <p>Ringed Plover Charadrius hiaticula; Sanderling Calidris alba; Black-tailed Godwit <i>Limosa limosa islandica</i>; Curlew <i>Numenius arquata</i>; Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>; Dunlin <i>Calidris alpina alpina</i>; Grey Plover <i>Pluvialis squatarola</i>; Knot <i>Calidris canutus</i>; Oystercatcher <i>Haematopus ostralegus</i>; Pink-footed Goose <i>Anser brachyrhynchus</i>; Pintail <i>Anas acuta</i>; Redshank <i>Tringa tetanus</i>; Shelduck <i>Tadorna tadorna</i>; Turnstone <i>Arenaria interpres</i></p> <p>Article 4.2 Assemblage qualification:</p> <p>regularly supports at least 20,000 waterfowl</p>	<p>Current pressures</p> <p>Inappropriate water levels - structures which control water along the North Norfolk Coast have fallen into disrepair, preventing appropriate water level controls for breeding birds.</p> <p>Change in species distribution.</p> <p>Potential future water threats</p> <p>Public access/Disturbance – ongoing threat to site from recreational activities and low flying aircraft.</p> <p>Fisheries: Recreational marine and estuarine - potential to impact on fish stocks as a resource for designated birds.</p> <p>Inappropriate coastal management.</p> <p>Fisheries: Commercial and marine estuaries - risk to site features due to uncertainty of current management.</p> <p>Predation.</p> <p>Coastal squeeze.</p>	<p>Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</p> <ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site. 	None.
The Wash and North Norfolk	Annex I habitats: Sandbanks slightly covered by sea water all	Current pressures	Ensure that the integrity of the site is maintained or	None.

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
Coast SAC (outside FH)	<p>the time; mudflats and sandflats not covered by sea water at low tide; large shallow inlets and bays; reefs; <i>Salicornia</i> and other annuals colonising mud and sand; Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>); Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>); coastal lagoons.</p> <p>Annex II species: Common seal (<i>Phoca vitulina</i>); otter (<i>Lutra lutra</i>)</p>	<p>Change in land management</p> <p>Air Pollution: impact of atmospheric nitrogen deposition</p> <p>Potential future water threats</p> <p>Public access/Disturbance – ongoing threat to site from recreational activities and low flying aircraft</p> <p>Siltation</p> <p>Fisheries: Recreational marine and estuarine - potential to impact on fish stocks as a resource for designated birds</p> <p>Invasive species</p> <p>Inappropriate coastal management</p> <p>Fisheries: Commercial and marine estuaries - risk to site features due to uncertainty of current management. No restriction on harvesting methodology</p> <p>Coastal squeeze</p>	<p>restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;</p> <ul style="list-style-type: none"> The extent and distribution of qualifying natural habitats and habitats of qualifying species The structure and function (including typical species) of qualifying natural habitats The structure and function of the habitats of qualifying species The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely The populations of qualifying species, and, The distribution of qualifying species within the site. 	
Chippenham Fen Ramsar (outside FH)	<p>Criterion 1: Spring-fed calcareous basin mire with a long history of management, which is partly reflected in the diversity of present-day vegetation. Criterion 2: The invertebrate fauna is very rich, partly due to its transitional position between Fenland and Breckland. The species list is very long, including many rare and scarce invertebrates characteristic of ancient fenland</p>	<p>Pressures and threats documented in the Fenland SAC Site Improvement Plan relate to the designated features of the SAC (see above) but are also likely to be relevant to the designated Ramsar features, particularly hydrological changes which are cited in the Ramsar Information Sheet.</p>	Not applicable.	Inappropriate scrub control, cutting and mowing in several units contributing to unfavourable no change status.

Site	Summary of reasons for designation	European site pressures and threats	Conservation Objectives	Other notes
	<p>sites in Britain.</p> <p>Criterion 3: The site supports diverse vegetation types, rare and scarce plants. The site is the stronghold of Cambridge milk parsley (<i>Selinum carvifolia</i>).</p>			
Wicken Fen Ramsar (outside FH)	<p>Criterion 1: One of the most outstanding remnants of the East Anglian peat fens. The area is one of the few which has not been drained.</p> <p>Traditional management has created a mosaic of habitats from open water to sedge and litter fields. Criterion 2: The site supports one species of British Red Data Book plant, fen violet (<i>Viola persicifolia</i>), which survives at only two other sites in Britain. It also contains eight nationally scarce plants and 121 British Red Data Book invertebrates.</p>	Pressures and threats documented in the Fenland Site Improvement Plan relate to the designated features of the SAC (see above) but are also likely to be relevant to the designated Ramsar features, particularly hydrological changes which are cited in the Ramsar Information Sheet.	Not applicable.	Issues caused by inappropriate water levels and scrub control in some areas. WLMP in place to address these issues.

Sources: Natural England's Site Improvement Plans for European sites and SSSI condition assessments (www.naturalengland.gov.uk) and JNCC's Natura 2000 Standard Data Forms and Ramsar Information Sheets (www.jncc.gov.uk), accessed January 2016

Appendix 3

Consultation comments on the HRAs of the 'Issues and Options' and 'Preferred Options' versions of the SIR

Consultation on the 'Issues and Options' SIR

Consultee	Summary of comment (N.B. Section and page numbers refer to the HRA report at Issues and Options stage)	LUC response
Natural England (statutory consultee)		
Natural England	Natural England is broadly satisfied that the assessments have been prepared in accordance with the requirements of the Conservation (of Habitats and Species) Regulations (2010). We concur with the conclusion of the screening assessment that significant effects to European sites cannot be ruled out for either option, and agree with the conclusions of the housing distribution options screening matrix.	Noted.
Natural England	However we note there are some areas that are lacking detail or require clarification; we have therefore provided detailed advice below concerning the structure of the report and any further information that we consider necessary.	In light of the detailed issues raised by Natural England, the categorisation of types of potential effect and the screening assumptions set out at Issues and Options stage was revised for subsequent stages of HRA through discussion and correspondence with Natural England.
Non-statutory consultees		
Suffolk County Council	<p>The development of a strategic approach to green infrastructure and ecological mitigation could, if implemented, assist in delivering housing and economic growth, with a planned and programmed approach to managing the cumulative pressures on habitats and species.</p> <p>The County Council is already working with authorities in East Suffolk to consider how to manage pressures on European sites. The same assistance can be provided to Forest Heath District Council (and neighbouring authorities) if helpful. In particular, improvements to the County Council's Rights of Way Network could be useful in managing recreational pressures.</p>	Noted.
Pegasus Group on behalf of Newmarket Horsemen's Group	<p><i>HRA para 2.9 and Table 2.2</i></p> <p>Insufficient information included on reasons for designation, threats and reasons for adverse conditions of European sites.</p>	European site information, in particular on pressures and threats, was revised to reflect the latest information available in Natural England's Site Improvement Plans.
Pegasus Group on behalf of Newmarket Horsemen's Group	<p><i>HRA Para 3.3</i></p> <p>Other plans which should have been included are the South Cambridgeshire Local Plan, the Cambridgeshire and Suffolk Waste and Minerals Plan and any transport plan for Cambridgeshire.</p>	Review of other plans and projects was been extended for subsequent stages of HRA.
Pegasus Group on behalf of Newmarket	<p><i>HRA Para 4.19</i></p> <p>The condition restricting development '1500m of any 1 km grid which</p>	The spatial data on stone curlew nesting attempts zone used to carry out this element of the HRA Screening at Issues and Options stage related to 1995-2006 and was the same as that used for the HRA of

Consultee	Summary of comment (N.B. Section and page numbers refer to the HRA report at Issues and Options stage)	LUC response
Horsemen's Group	has supported 5 or more nesting attempts by stone curlew since 1995'. This condition potentially becomes more onerous as time progresses as more sites may be used for nesting. It should be taken for the last 10 years as was envisaged at the time when the 2009 HRA was in preparation. Further the use of a 1 km grid is excessively onerous. Nevertheless the need for Appropriate Assessment cannot be screened out.	the Core Strategy. FHDC had commissioned a study to update this spatial data but the results were not available at the Issues and Options stage. Updated data were used once available at the Proposed Submission stage.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.49</i> No evidence has been put forward to reduce the constraint zone for disturbance from 10 km as recommended by Fearnley et al (2010) to 7.5 km; a distance of 10 km should be retained and an Appropriate Assessment undertaken with this in mind.	Disagree. The 10 km distance referred to by (38) is measured from home postcodes to survey locations within Thetford Forest whilst the 7.5 km distance identified by analysis in the HRA of the Breckland Site Specific Policies and Proposals Document (59) is measured from home postcodes to the boundary of Thetford Forest. (38) state that the two sets of findings are similar. See paragraphs 4.51 to 4.55 of this HRA report for further discussion.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.68 and following</i> Negative effects of urban development do not only affect Breckland sites and further consideration needs to be given to this topic.	Categorisation of effect types and the European sites that are vulnerable to each of these was reassessed, informed by Natural England's Site Improvement Plans.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA para 4.90</i> The EA flood risk maps together with the site descriptions should help ascertain which sites might be affected by increased flooding. For example, Devil's Dyke is a raised chalk embankment and Rex Graham Reserve a chalk pit. This should be clarified to aid scoping.	A precautionary approach was taken in identifying European sites potentially affected by water environment issues due to an absence of up to date, spatially specific information. The Council had commissioned an updated Water Cycle Strategy to inform the SIR and SALP and the HRA of these documents but the results of this study were not available at the time of the HRA of the Issues and Options. The issue was revisited once this became available.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.114 and following</i> 1. This consideration is inadequate. The position with regard to the potential effects of abstractions has been considered in detail with regard to the west of the region in detail at the recent Hatchfield Farm Inquiry and this evidence has not been considered. 2. Important sources e.g. Reviews of Consents and Management Plans have been omitted. 3. No consideration has been given to identifying which sites are vulnerable to changes in groundwater. 4. There has also been no consideration of the Breckland SAC.	See response to 'HRA Para 4.90' above.
Pegasus Group on behalf of Newmarket	<i>HRA Para 4.122</i> Mott MacDonald assessed the scheme options, for example the effects of the pipeline routes not the water supply implications and this is not	See response to 'HRA Para 4.90' above.

Consultee	Summary of comment (N.B. Section and page numbers refer to the HRA report at Issues and Options stage)	LUC response
Horsemen's Group	clear in the HRA. The conclusion in relation to this point is not therefore correct.	
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.123</i> Detailed consideration was given to the breakdown of housing in relation to the Resource Zones at the recent Hatchfield Farm Inquiry and has not been considered.	See response to 'HRA Para 4.90' above.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.123 and 4.124</i> There are already underlying problems (re. assessment of potential effects of water abstraction) which have not been addressed.	See response to 'HRA Para 4.90' above.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.127</i> This erroneously states that Devil's Dyke is heathland when it is in fact chalk grassland. This is repeated throughout this section and affects the conclusions.	Accepted that Devil's Dyke was described as having designated heathland rather than chalk grassland plant species and this has been corrected in the current stage of HRA. Both types of habitat are sensitive to air pollution from roads (nutrient build-up from nitrogen deposition), therefore broad conclusions were unaffected.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 4.138</i> No consideration has been given to any Highways Agency plans.	HRA Screening in relation to effects on air quality was amended at Proposed Submission stage to rely on the Council's Transport Study.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Paras 5.5 and 5.6</i> There were failures in the Appropriate Assessment undertaken in 2009 such that issues, for example water supply were not satisfactorily considered and could have been subject to challenge. On the grounds above and on the basis of a different data set since the publication in 2009 it cannot be concluded that likely significant effects from Option 1 will not arise.	The consultee's opinion on the soundness on the HRA of the 2009 Core Strategy is noted but the Inspector's report into the examination of the Core Strategy concluded that subject to recommended changes to Policy CS2, "there would be no significant harm to the conservation of any European and nationally protected biodiversity sites as a result of the policies and proposals within this DPD". In any event, para. 5.6 the HRA Screening at Issues and Options stated that the potential for the total housing distribution options to have likely significant effects had been reassessed.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Table 5.1</i> Various comments, mainly referencing those already made above.	The approach to HRA screening of the total housing provision was revised after Issues and Options stage.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 5.7</i> This should be a much fuller assessment identifying sites and possible effects.	The approach to consideration of in-combination effects was revised after Issues and Options stage.
Pegasus Group on behalf of	<i>HRA Para 6.4</i>	See response to 'HRA Para 4.90' above.

Consultee	Summary of comment (N.B. Section and page numbers refer to the HRA report at Issues and Options stage)	LUC response
Newmarket Horsemen's Group	Water supply: this is not strictly true because water availability varies across FHDC area and this can be related to possible housing distribution – detailed evidence on this matter was presented to the recent Hatchfield Farm Inquiry.	
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Table 6.3</i> In relation to Newmarket see comments on para 4.49 and the detailed evidence submitted to the Hatchfield Farm Inquiry.	See response to 'HRA Para 4.49' above.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Table 6.4</i> In terms of Newmarket the NHG considers the appraisal to be incorrect (see considerations for Chippenham Fen). There is a failure to consider water supply.	See response to 'HRA Para 4.90' above.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Para 6.10</i> This should be a much fuller assessment identifying sites and possible effects.	The approach to consideration of in-combination effects was revised after Issues and Options stage.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Table 7.1</i> Disturbance to Annex 1 birds - the zone of 7.5 km has not been justified and varies from that of Fearnley. Urban Effects - Not all potential sites are named. Water supply - It would be possible to identify sites. The recommendations are inadequate given the data base available and, given that some sites already show signs of adverse impacts from water abstraction.	Disturbance to Annex 1 birds - see response to 'HRA Para 4.49' above. Urban effects – categorisation of types of effect and identification of European sites that are sensitive to each of these was revised after the HRA at Issues and Options stage. Water supply - see response to 'HRA Para 4.90' above.
Pegasus Group on behalf of Newmarket Horsemen's Group	<i>HRA Table 7.1</i> All options Newmarket should be added to potential LSE sites for disturbance together with all other sites in 10 km. No consideration is given to water supply No consideration is given to flood risk	10 km disturbance buffer - see response to 'HRA Para 4.49' above. Water supply and flood risk - See response to 'HRA Para 4.90' above.

Consultation on the 'Preferred Options' SIR

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
Natural England (statutory consultee)			
Natural England (Cheshire) (Ms Francesca Shapland) [C-24206-12637]	General point	Natural England is broadly satisfied that the assessment have been prepared in accordance with the requirements of the Conservation (of Habitats and Species) Regulations (2010). You will be aware that Natural England provided comments at the Issues and Options stage in our letter dated 2015. Following these comments we note that much of our previous advice, particularly in relation to providing clarity in the documents, has been taken into consideration in the updated HRA. We find the report clearer, particularly in terms of the various components of urban and recreational effects. However we recommend some changes to Section 4, the information used and assumptions made in the HRA.	Noted. Specific concerns addressed below.
Natural England (Cheshire) (Ms Francesca Shapland) [C-24206-12637]	Section 4: Information used and assumptions made in the HRA	Before progressing with your appropriate assessment, we recommend that your authority reviews the criteria by which development sites have been screened in or out.	Specific concerns addressed below.
Natural England (Cheshire) (Ms Francesca Shapland) [C-24206-12637]	4.36-4.61 Recreation Pressure	As explained in our response to the Issue and Options consultation, we agree that it is necessary to consider cumulative recreational effects to the qualifying species of Breckland Special Protection Area (SPA) up to a distance of 7.5km. This distance was agreed during the Breckland Local Plan process as this is the distance within which it has been established that the majority of recreational effects can be captured. However these discussions focussed around the woodland and heathland areas of the SPA rather than the farmland areas as it was felt that visitors were likely to travel some distance to forest/heathland areas, but would only use farmland (for walking dogs etc.) near to home. With this in mind, the distance was largely put in place to protect nightjar and woodlark. Having considered the issue further, Natural England agrees that it should also be applied to stone curlew, as this species also uses heathland (but not forested) areas. However, given the above, this distance does not need to apply to farmland areas, so for example is not relevant to Breckland Farmland SSSI. We appreciate it may be difficult to separate the farming areas from the heathland/forested areas	Breckland SPA 7.5 km buffer used for screening for recreation pressure has been redrawn to exclude those parts of the SPA which are overlain by SSSI units which Natural England website (41) identifies as having a 'Arable and horticulture' habitat type.

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
		easily during the HRA screening process but it would be worth reviewing the site allocations again with that in mind.	
Natural England (Cheshire) (Ms Francesca Shapland) [C- 24206-12637]	4.36-4.61 Recreation Pressure	<p>Furthermore the above discussions had no bearing on any agreed distances regarding cumulative recreational effects to Breckland Special Areas of Conservation (SAC). Although recreational effects to Breckland SAC need to be taken into account when reviewing applications at the planning stage, there is no evidence that the 7.5km distance needs to be applied to the Breckland SAC sites. This distance relates to effects on the qualifying species of Breckland SPA, being initially focused on Thetford Forest (in view of concerns regarding extensive development in Thetford). The site improvement plan for Breckland SAC mentions that recreation may cause an effect in future but we do not consider that it is currently affecting any specific interest features on site, hence why the site improvement plan does not list any SAC interest features currently under pressure. Taking this into account, we would expect site allocations affecting Breckland SAC would be reviewed very much on a case by case basis and appropriate mitigation applied but would not expect this distance to be applied. Should further evidence become available, we would be happy to review our position on this.</p> <p>Rex Graham Reserve is generally closed to the public and, as we understand it, the illegal plant collection is more a case of organised theft, i.e. it is not linked to recreation.</p> <p>Taking this into account, the above 7.5km distance to review cumulative recreational effects does not, in our view, need to apply to either Breckland SAC or Rex Graham SAC. We recommend you review the HRA Screening of housing distribution options again with the above advice in mind.</p>	The method applied to HRA screening of Proposed Submission SALP has been amended to remove the assumption that likely significant recreation pressure effects cannot be ruled out for housing allocations within 7.5 km of Breckland SAC or Rex Graham Reserve SAC.
Natural England (Cheshire) (Ms Francesca Shapland) [C- 24206-12637]	4.1 The FHDC Deliverability Study (Screening Criteria)	<p>Natural England is currently undertaking an internal review of the effectiveness of the screening criteria used to decide whether developments may pass the likely significant effect test in relation to the 1500m constraints zone. Note that this does not specifically apply to Forest Heath's criteria but relates to the screening criteria of all the relevant councils.</p> <p>We note that the Site Allocations Plan HRA includes reference to screening criteria used by the Core Strategy which includes a) totally screened from the European site by built</p>	<p>The method applied by the HRA Screening of the SALP (see separate report) does not rely on the screening criteria applied by FHDC in its Deliverability Study.</p> <p>LUC agrees that criteria (a) and (b) cited in Natural</p>

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		development, and b) would not advance the line of built development towards the European site (4.1). We note that these mitigation options address impacts to stone curlew associated with the visual impact of increasing development (screening) and in terms of a gradual loss of area within the zone; however they cannot mitigate against indirect impacts, particularly those associated with housing (disturbance by human activity). Therefore whilst we do not have particular concerns about any of the site allocations set out in the current site allocations document, having worked with your authority on any we felt may affect the qualifying species of Breckland SPA, we suggest that in future the suitability of these criteria are reviewed against the types of development proposed for each allocation, to ensure they are appropriate and that the Habitats Regulations Assessment is robust.	England's comment cannot address all aspects of the type of potential effect categorised by the HRA as 'Disturbance and other urban edge effects from construction or occupation of buildings' and this has been reflected in the approach to Appropriate Assessment of site allocations for which the HRA Screening of the SALP cannot rule out likely significant effects.
Natural England (Cheshire) (Ms Francesca Shapland) [C-24206-12637]	7. Conclusions and Recommendations	Natural England is currently working towards a strategic land use planning solution for the Breckland Special Protection Area (SPA), which will seek to progress sustainable development solutions for stone curlew. We anticipate that, whilst a general principle of the avoidance of built development within the 1,500m constraint zone will remain (consistent with best practise), and should remain the preferred approach to the allocation of sites for development, a strategic solution will be devised which would identify options for mitigation which have so far not been available to developers. Some limited development within the 1,500m constraint zone may therefore be possible in the future, subject to a set of clearly defined criteria, and commitment to a mitigation strategy proportionate to the type, scale, and location of development. We will be writing to all the relevant authorities in due course about our proposal. Whilst it is not yet available and so cannot be included in your section on current or recommended mitigation for Breckland SPA, we hope that it can be mentioned within the Forest Heath local plan and at least briefly considered within the appropriate assessment (depending on timing).	Noted. Information on this solution was not available at the time of the HRA of the Proposed Submission SALP.
Natural England (Cheshire) (Ms Francesca Shapland) [C-24206-12637]	7.21	We welcome the Accessible Natural Greenspace study, which we have commented on separately, and are happy to work with Forest Heath District Council on the proposed recreational pressure mitigation strategy.	Noted. The HRA has taken account of this strategy, as outlined in the Accessible Natural Greenspace Study and referenced in relevant Local Plan policies.

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Natural England (Cheshire) (Ms Francesca Shapland) [C- 24206-12637]	4.22 The stone curlew nest attempts data	We understand that the stone curlew nest attempts information is not yet ready and agree that the data should be updated at the proposed submission stage.	The HRA at the Proposed Submission SALP stage is based on updated stone curlew nesting attempts data supplied to FHDC by Footprint Ecology in July 2016 (60).
Natural England (Cheshire) (Ms Francesca Shapland) [C- 24206-12637]	General point	We note that your authority has not yet begun the Appropriate Assessment. As this is often a long process, we would encourage you to begin work as soon as possible.	Noted.
Non-statutory consultees			
Pegasus Planning for Newmarket Horsemen's Group [O - 24544 - 11392]	General point	The NHG submitted detailed evidence to the Hatchfield Farm inquiry raising significant concerns regarding the Council's approach to the Habitats Regulations. These concerns were reiterated in the NHG's response to the 2015 consultation of this document. The NHG's consultant has reviewed this latest draft of the HRA and considers that the previous concerns raised have not been addressed and therefore remain.	See responses to individual points in preceding table. Hatchfield Farm is no longer allocated in the Proposed Submission SALP.
Pegasus Planning for Newmarket Horsemen's Group [O - 24545 - 11392]	4.1 The FHDC Deliverability Study (Screening Criteria)	As the constraint zones are being reconsidered, it means that the Policy CS2 is effectively out of date and therefore that the allocations and distribution options cannot be considered as properly determined. The presence of other significant barriers such as the A 14 has not been used to screen site options - this leads to some sites e.g. in Kentford being excluded on the basis of spurious grounds and can skew allocations.	The method applied by the HRA of the SIR and SALP does not rely on the screening criteria applied by FHDC in its Deliverability Study.
Pegasus Planning for Newmarket Horsemen's Group [O - 24546 - 11392]	4.9 Disturbance and other urban edge effects	There is an omission of other effects including fragmentation, vandalism, connectivity in the assessment	Vandalism is not identified by Site Improvement Plans as a particular current pressure or potential future threat facing any of the scoped-in European sites and would, in any case, be difficult to differentiate from the generic effects categories of 'disturbance and other urban edge effects' and 'recreation pressure'. The potential importance of habitat areas outside European site boundaries to their designated species populations is given due consideration under the effects category 'direct loss or physical

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
			damage due to construction'. More diffuse fragmentation/ loss of connectivity effects are not identified by Site Improvement Plans as a particular current pressure or potential future threat facing any of the scoped-in European sites and there is no evidence to suggest that the Local Plan poses a credible threat to site integrity in this regard.
Pegasus Planning for Newmarket Horsemen's Group [O - 24547 - 11392]	4.15 Disturbance and other urban edge effects	Non-residential building may have a cumulative or in combination effect with residential construction and this should be considered.	The approach to HRA screening for disturbance and other urban edge effects considers all forms of built development not just residential development.
Pegasus Planning for Newmarket Horsemen's Group [O - 24548 - 11392]	4.20 Disturbance and other urban edge effects – stone curlew nesting attempts	This predates the reappraisal of stone curlew records and will need reconsideration. A 1km grid square is unnecessarily onerous and may include land that is suitable thus skewing the allocation of sites, consideration of options.	The HRA screening of the Preferred Options Local Plan document used the most up-to-date stone curlew nesting attempts data available at the time. An updated data set is used for HRA of the Proposed Submission Local Plan document. The screening uses the most appropriate stone curlew nesting attempts data available and this is reported using 1 km grid squares (60). The approach has been agreed with Natural England.
Pegasus Planning for Newmarket Horsemen's Group [O - 24549 - 11392]	4.37 Recreation pressure – European sites potentially affected	The distance of 7.5km from the district boundary is not appropriate because of the potential for in combination effects. Two sites are vulnerable to recreational pressure: <ul style="list-style-type: none"> Chippenham Fen has a public footpath with easy access to other parts of the site and is vulnerable to pressure. Natural England reports vandalism (evidence to Hatchfield Farm Inquiry (HFI)). Devil's Dyke has a public footpath along the top of a vulnerable structure which already shows signs of erosion. Rex Graham reserve - theft is not a result of recreational pressure but specific criminal activity. It is considered that this needs a separate section.	Disagree. The justification for use of a 7.5 km buffer set out in the HRA report stands and has been agreed with Natural England. The site is generally closed to the public and the plant collection is organised theft rather than linked to recreation. In addition, the related SSSI is in 100% favourable condition. Natural England has confirmed that an assumption of cumulative recreation pressure from all housing allocations within 7.5 km of Rex Graham Reserve SAC is not necessary.
Pegasus Planning for Newmarket	4.47-4.50 7.5 km	The NHG's previous comments about the applicability of the 7.5km v 10km buffer have been ignored. It does not matter	Disagree. The justification for use of a 7.5 km buffer set out in the HRA report stands and has

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
Horsemen's Group [O - 24550 - 11392]	recreation buffer	where Fearnley measured to, the precautionary principle established by the Sweetman case indicates that in the light of very clear advice the 10km boundary should be adhered to. The report says that the majority of visitors live within 10km but there is in fact a case for a greater than 10km radius as the average distance from home to survey location in the Fearnley report was 16.7km. Further, no efforts were made to assess travel time and from some major towns journey time to core SPA areas is very quick along major roads.	been agreed with Natural England.
Pegasus Planning for Newmarket Horsemen's Group [O - 24552 - 11392]	4.48	Object for the reasons set out in relation to 4.48.	Specific points addressed above.
Pegasus Planning for Newmarket Horsemen's Group [O - 24553 - 11392]	4.64-4.93 Water quantity and water quality	<p>The NHG's consultant has reviewed the Water Cycle Study that has been prepared alongside the HRA and has the following concerns:</p> <ul style="list-style-type: none"> * The WCS appears to have been prepared and reviewed without awareness of any of the detailed water resource and groundwater issues reviewed in the HFI. * This report does not reflect the totality of the Anglian Water's Water Resources Management Plan (WRMP) and reviews Newmarket, Ely and West Suffolk RZ plans in isolation. * There is no quantitative comparison of housing projections used by the WRMP and FHDC. * The review of water-dependent protected species is inadequate * There is no reference to the Review of Consents for Chippenham Fen (Atkins Report, 2010) which was extensively reviewed in the HFI. There is also no reference to the impact of the Ely RZ abstraction at Isleham on Newmarket RZ, on which much time was spent at HFI. <p>The NHG considers that these concerns undermine the credibility of the HRA work that has been undertaken.</p>	FHDC has updated its Water Cycle Strategy since the HRA of the Preferred Options SIR; part of the brief for the updated report was to identify any water environment effects on European sites as a result of the growth proposed by the SIR and SALP and it is judged reasonable to rely upon this source of evidence for HRA of the Proposed Submission SIR and SALP.

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
Pegasus Planning for Newmarket Horsemen's Group [O - 24554 - 11392]	4.64 Water quantity	No information is given about the regarding individual sites or their vulnerability. The NHG considers that this section is noticeably light given the magnitude of the issue.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24555 - 11392]	4.65 Water quantity	The NHG considers this to be incorrect. The potentially affected sites may depend on the additional water resource schemes but may also depend on the impact of even small levels of additional abstraction on already challenged sites.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24556 - 11392]	4.68 Water quantity	Irrespective of what the Water Cycle Study found, there are sites listed in Appendix 2, including the Fenland SAC and Chippenham Fen Ramsar, which are known to be suffering negative effects and no consideration has been given to this. The licensing system is known not to be protecting European sites, viz the Review of Consents for Chippenham Fen	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24557 - 11392]	4.71 Water quantity	Mott MacDonald report undertook an HRA screening on the effects of options not on the underlying abstraction. It cannot therefore be used to say that there is no likely significant effects from the impacts of development.	The HRA of the Preferred Options SIR stated at paras. 7.23-7.27 that likely significant effects could not be ruled out in relation to water quantity. This issue is revisited in the HRA of the Proposed Submission, informed by an updated Water Cycle Strategy.
Pegasus Planning for Newmarket Horsemen's Group [O - 24558 - 11392]	4.72 Water quantity	The NHG considers this to be incorrect. There are a series of Water Resource Zones and each will behave differently. Thus there may be site specific and local allocation issues and potential effects should be considered on the detailed scale of the housing growth as well as on the broader distribution. The Water Cycle study which is now available does not address this.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24559 - 11392]	4.73 Water quantity	Detailed information was presented to the HFI that compared the residential growth to the Water Resource Management Plan (WRMP) and identified the relevant allocations for each Water Resource Zone.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24560 -	4.73 Water quantity	NHG considers that the recent Water Cycle Study has not adequately addressed water resources. The HFI considered the 2015 WRMP at length and highlighted discrepancies in numbers and projections. It is in the Water Cycle that the Newmarket RZ will be in surplus (4.1.1). However, the AW	See response to [O - 24553 - 11392].

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
11392]		report actually says in one place 'confirms that there is a greater than 90% probability that the RZ water balance will be in deficit from the mid-part of the forecast period' Thus much more detailed consideration needs to be given to these issues and the current assessments made as part of the Water Cycle update cannot be relied upon. These therefore cannot be taken forward to the HRA without considerable further work.	
Pegasus Planning for Newmarket Horsemen's Group [O - 24562 - 11392]	Section 6. HRA Screening of housing distribution options re. water quantity	The NHG considers that this needs to take account of the different Water Resource Zones. Furthermore, the screening does not consider in combination effects and as such is inadequate.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24563 - 11392]	Page 35. HRA Screening of housing distribution options re. disturbance and other urban edge effects	<p>The NHG has the following concerns :</p> <ul style="list-style-type: none"> * The stone curlew nesting data is being reanalysed and thus CS2 this cannot be verified as a constraint. * Newmarket: Given earlier comments on the 10 km radius this should not be ruled out. The issue of the nearest constraint zone is not relevant, it is the boundary of the SPA. * No in combination effect has been considered. * Kentford is the opposite side of the A 14 and as such is not functionally linked to the Breckland SPA . It should be omitted from the constraint zone and the allocation of housing reconsidered. 	<p>The HRA of the Proposed Submission SIR and SALP reference the updated (2011-2015) stone curlew nesting attempts information.</p> <p>Disagree. The justification for use of a 7.5 km buffer set out in the HRA report stands and has been agreed with Natural England.</p> <p>The assessment method considers the potential disturbance and other urban edge effects of the total scale of growth proposed at each settlement and these effects are assumed to not operate over distances greater than 1.5 km. It is unclear which potential in combination effects have been omitted by this approach.</p> <p>The evidence relied upon by the HRA concerning which stone curlew nesting attempts areas are functionally linked to Breckland SPA has been accepted by Natural England and it judged reasonable to rely upon this.</p>
Pegasus Planning for Newmarket Horsemen's Group [O - 24564 - 11392]	Page 38 - Recreation Pressure Table	<p>The 7.5 km boundary should be reconsidered and extended to 10 km. On this basis Newmarket would not be considered to have no likely significant effects.</p> <p>The Rex Graham reserve issue is criminal damage not recreational pressure and as such the boundary needs considering.</p>	See response to [O - 24549 - 11392].

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Pegasus Planning for Newmarket Horsemen's Group [O - 24565 - 11392]	Page 43 - Water Pressure Table	<p>Overall this is inadequate and needs substantial revision including identification of sites.</p> <p>Column 2 : Evidence was presented at the HFI to compare the residential growth of FHDC with the other Districts . This could readily be updated.</p> <p>Column 3 : The existing abstraction regime has not ensured that there are no likely significant effects on European sites. This is documented in Reviews of Consents and in citation sheets.</p> <p>Column 6 : Consideration has been given to the Water Cycle Report (4.74) and it will not be possible to rule out likely significant effects based on information within that document. It also ignores the existing adverse effects.</p>	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24566 - 11392]	7.5 In combination effects	Given that likely significant effects could not be excluded with certainty, as is required under the legislation, for recreation and water quantity, there is a need to properly consider the potential in-combination effects for every relevant European designated site. Comments made previously indicate that the plan has not necessarily mitigated additional pressure and the supporting tables in section 6 need reconsideration	Para. 7.5 does not state that likely significant effects could not be excluded with certainty, rather that no relevant residual effects from other plans and projects were identified by the in combination assessment.
Pegasus Planning for Newmarket Horsemen's Group [O - 24566 - 11392]	7.17-7.18 Recreation pressure	As previously discussed the NHG considers that there are good reasons for the buffer zone to be 10 km. That described is not an appropriate reason for the establishment of a buffer zone. The NHG considers that if development is to be allocated an Appropriate Assessment needs to be undertaken to establish no likely significant effects. On this basis Newmarket cannot be ruled out.	See response to [O - 24549 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24569 - 11392]	7.20 Recreation pressure	The NHG considers that it is not sufficient to 'reduce the potential' and depend on an Accessible Greenspaces Policy. If greenspace is to be compensation and/ or mitigation, then it needs to be 'at least equally if not more attractive'. It is by no means certain that this can be achieved and there is an absence of evidence to prove otherwise.	Natural England commented on FHDC's Natural Accessible Greenspace Study at Preferred Options stage that " <i>it has not been proved that strategic recreational effects are having an effect on the qualifying species of Breckland SPA</i> " but recognising the potential for development in the district to give rise to such effects and stating that " <i>we welcome the approach set out in the report to address this potential issue</i> ". Where Natural England has made suggestions to strengthen the mitigation offered by the study, FHDC has given consideration to these and reflected them in latest (January 2017) version

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			of the study, for example by adding. As such, it is judged appropriate for the HRA to rely on the approach to mitigation set out in the study and referenced in the Local Plan documents.
Pegasus Planning for Newmarket Horsemen's Group [O - 24570 - 11392]	7.23 Water quantity	No detailed information is given on the sites that would be potentially affected.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24571 - 11392]	7.24 Water quantity	The NHG considers that information is available to assist with this.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24572 - 11392]	7.25 Water quantity	The NHG considers that it is incorrect to suggest that the sites potentially affected would depend on particular schemes when there is already documented evidence of damage.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24573 - 11392]	7.24/7.27 Water quantity	The Water Cycle Study is now available and does not provide confirmation that likely significant effects can be ruled out.	See response to [O - 24553 - 11392].
Pegasus Planning for Newmarket Horsemen's Group [O - 24574 - 11392]	Appendix 3 Response to consultation comments on HRA of Issues and Options	<p>The NHG objects to the response, which points to the WCS dealing with impacts of abstraction effects. The WCS does not deal with in- combination effects of abstractions other than in a superficial manner. It is noted that these issues are to be dealt with at Proposed Submission.</p> <p>Furthermore, review of water-dependent protected sites only assesses those with European protective designation. There is an inadequate reference to ground water related issues.</p>	See response to [O - 24553 - 11392].
Sellwood Planning for Lord Derby [S - 24081 - 5831]	Section 4. Water quantity and water quality	Paragraph 4.70 The March 2016 Water Cycle Strategy Update concludes that that Forest Heath preferred sites can be supplied with water without increased abstraction and there is therefore no negative impact from the development plans in terms of water supply. Even if it had been considered that additional water resources had been required, there are a	Support noted.

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
		<p>series of technical and regulatory measures which interlock to ensure there could be no risk to European sites.</p> <p>Therefore there will be no likely significant effects on internationally important sites in terms of water supply which is in accordance with the Conservation of Habitats and Species Regulations.</p> <p>Paragraph 4.87 The updated Water Cycle Strategy, referenced by LUC, confirms no that there are no technically insurmountable issues associated with treatment of wastewater from the Preferred Option and hence likely significant effects can be ruled out in terms of water quality.</p> <p>Paragraph 4.69 Whilst no air quality issue has been raised in terms of Hatchfield Farm, the allocation would not be likely to result in air quality concerns in relation to European designated sites.</p>	
Breckland District Council (Martin Pendlebury) [C-24099-12898]	SPA and designated features terminology	We note some inconsistency in the drafting of the documents in terms of the Special Protection Area and referencing all the features from which it derives the designation. We would recommend making this consistent especially in terms of Habitats Regulation Assessment.	Unclear which particular references to the SPA and designated features are inconsistent in the HRA for the Preferred Options SIR but the HRA of the Proposed Submission has sought to be consistent.
Eclipse Planning Services for Animal Health Trust [C - 24186 - 4678]	General comment	<p>The SIR Habitats Regulations Assessment has also been examined. The presence in Forest Heath District itself and within 20km of the District boundary of Special Protection Areas and Special Areas of Conservation is acknowledged. To paraphrase paragraph 7.18 from the document's concluding section, there is potential for significant effects on these areas from development at all the District's major settlements except Newmarket, and at the primary villages, for both Options 1 and 2. The only alternative would be to redirect a significant proportion of the development proposed elsewhere in the District to Newmarket, a strategy which AHT did not support at the previous consultation stage and which the Council has itself since rejected. There is no avoiding the fact that potential impacts must be evaluated and suitable methods of mitigation found.</p> <p>However, the corollary is that to increase housing provision to what we regard as an appropriate level need not increase to any great extent the potential for adverse effects on these</p>	<p>Paragraph 7.18 states the finding of the initial screening assessment, prior to consideration of existing mitigation. The overall conclusion is in the boxed text after para. 7.20. The potential effects of recreation pressure have been revisited in the HRA at Proposed Submission stage, including in light of FHDC's recreation mitigation strategy.</p> <p>Other points noted.</p>

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
		<p>areas, the Breckland SPA in particular.</p> <p>The land at Kentford in AHT's ownership which we recommend for allocation lies outside the buffer zones for areas used for nesting by stone curlew. It is thus free from this constraint.</p> <p>More generally, we see that the HRA also contains a review of the plans and programmes of nearby local planning authorities containing or within a certain radius of SPAs and SACs. We note the extent of housing provision in Breckland District, where the scale of proposed housing development (19,500 dwellings for the period 2001 to 2026) and the proximity of the District's principal town, Thetford, to the SPA/SAC has the potential to give rise to greater impacts than from development in Forest Heath District. These potential impacts appear to have been dealt with satisfactorily. We conclude therefore that the presence within the District and in surrounding areas of Special Protection Areas and Special Areas of Conservation does not act as an overriding constraint to the provision of an additional 700 dwellings (10.3%) over the proposed 6,800 dwellings for the Plan period.</p> <p>In the light of the above, we advocate total housing provision in Forest Heath District for the Plan period 2011 to 2031 of 7,500 dwellings, based on the relationship between affordable housing need and total housing provision which informed our representations at the previous stage.</p>	
Eclipse Planning Services for Crest Nicholson (Eastern) [C - 24444 - 11393]	General comment	<p>The SIR Habitats Regulations Assessment has also been examined. The presence in Forest Heath District itself and within 20km of the District boundary of Special Protection Areas and Special Areas of Conservation is acknowledged. To paraphrase paragraph 7.18 from the document's concluding section, there is potential for significant effects on these areas from development at all the District's major settlements except Newmarket, and at the primary villages, for both Options 1 and 2. The only alternative would be to redirect a significant proportion of the development proposed elsewhere in the District to Newmarket, a strategy which Crest Nicholson did not support at the previous consultation stage and which the Council has itself since rejected. There is no avoiding the fact that potential impacts must be evaluated</p>	Noted.

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
		<p>and suitable methods of mitigation found.</p> <p>However, the corollary is that to increase housing provision to what we regard as an appropriate level need not increase to any great extent the potential for adverse effects on these areas, the Breckland SPA in particular. An increased level of housing at Red Lodge could be accommodated in a compact and well planned fashion (desirable characteristics even in the absence of nature conservation constraints) so that the impacts in terms of two of the HRA's concerns - the dwellings themselves and the necessary infrastructure to support them, including roads - could be absorbed and mitigated.</p> <p>It might reasonably be assumed that any increase in recreational pressures would be commensurate with any increase in population; but then again paragraph 7.19 of the HRA refers to the potential to mitigate adverse effects in adopted policies, starting with Policy CS2.</p> <p>The HRA also contains a review of the plans and programmes of nearby local planning authorities containing or within a certain radius of SPAs and SACs. We note the extent of housing provision in Breckland District, where the scale of proposed housing development (19,500 dwellings for the period 2001 to 2026) and the proximity of the District's principal town, Thetford, to the SPA/SAC has the potential to give rise to greater impacts than from development in Forest Heath District. These potential impacts appear to have been dealt with satisfactorily.</p> <p>We conclude therefore that the presence within the District and in surrounding areas of Special Protection Areas and Special Areas of Conservation does not act as an overriding constraint to the provision of an additional 700 dwellings (10.3%) over the proposed 6,800 dwellings for the Plan period.</p>	
Newmarket Horsemen's Group (NHG) [C-24551- 11392]	4.47 Recreation pressure – Rex Graham Reserve SAC	This is not recreation pressure.	See response to [O - 24549 - 11392]
Pegasus Planning for Newmarket Horsemen's Group	7.9-7.12 Mitigation of disturbance and other	Depending on the results of the review of stone curlew data CS2 may need to be amended.	Natural England has endorsed use of the most recent nesting attempts data (2011-2015) for the HRA of the SIR and SALP. A literal interpretation of

Respondent [comment reference]	Section of Preferred Options HRA report	Comment summary	LUC response
[O - 24567 - 11392]	urban edge effects by CS2		Core Strategy Policy CS2 would require reference to all nesting attempts data 'since 1995'. Since this is a more precautionary approach it does not affect the ability of the HRA of the SIR and SALP to rely on assurance provided by CS2 that unallocated development proposals that could have an adverse effect on the integrity of Breckland SPA will be subject to project level HRA.