



# Habitat Regulations Assessment of the Breckland Local Plan Part 1 - Preferred Site Options & Settlement Boundaries



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Habitats Regulations Assessment of Breckland  
Local Plan – Preferred Site Options and  
Settlement Boundaries



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# Habitats Regulations Assessment of Breckland Local Plan – Preferred Site Options and Settlement Boundaries

## Summary

Habitats Regulations Assessment (HRA) is required in accordance with the Conservation of Habitats and Species Regulations 2010, as amended, in order to ensure that plans and projects do not adversely affect any European wildlife sites. All planning documents forming part of a local plan are the subject of HRA, which is the responsibility of the plan making body to produce.

This report provides the HRA of the Breckland Local Plan, being undertaken by the Breckland Council. This report is an assessment of the 'Preferred Site Options and Settlement Boundaries' which follows on from the recent publication of the 'Preferred Directions' document. Consultation responses from both documents will be used to develop a draft Local Plan Part 1 for Breckland. This HRA was produced based on a draft of the Preferred Site Options and Settlement Boundaries, which was shared with Footprint Ecology in August 2016.

This HRA should be read in conjunction with earlier HRA work that has been prepared to support the preparation of the Local Plan. That previous work includes a background and review of evidence report setting out initial background and evidence gathering work, which was undertaken in the early stages of the development of the new Local Plan, HRA of the plan at Issues and Options stage and a HRA of the Preferred Directions document. The background and review of evidence report provides the background and underpinning evidence for this assessment, identifying information available for use within this HRA, including the protection of European sites to date, as a result of the implementation of the current plan (the Breckland Core Strategy). That report highlights potential concerns and opportunities relating to protection of European sites to inform the new Local Plan now being prepared to replace the Core Strategy.

HRAs remain as working documents, being continually updated to inform the various stages of plan making, until the finalisation of the plan for adoption by the Council. This HRA assesses the preferred options for delivering growth through options for development. It includes a check of emerging policy in relation to site options and settlement boundaries in the plan for any likely significant effects on any European site.

This screening provides Breckland Council with a number of recommendations for text changes and additions to strengthen protection of European sites within the plan and incorporate measures to avoid risks. The screening has identified several of key issues for further (more detailed) assessment, and appropriate assessment has been undertaken for impacts relating to development presence, urban effects (including recreation), traffic and roads, water and air quality. Each topic heading forms a separate section in this report.

Current information and analysis has allowed positive progression towards ensuring that the Local Plan will not adversely affect European sites, but it remains too early to draw a legislation compliant conclusion, and the assessment will continue to seek solutions to achieve this as the information gaps are filled and the plan develops towards its submission stage. Key information gaps include the Water Cycle Study and Strategic Flood Risk Assessment and overall changes in traffic flows and therefore air quality impacts to European sites. These pieces of evidence will need to be considered in the assessment of the next iteration of the Local Plan.

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Within the assessment we have reviewed buffers relating to stone curlews, using up-to date data from the RSPB. We have included recommendations for changes to the buffers, based on more recent data and later versions of the Plan will need to refer to these or show them on maps within the Plan.

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## **1. Introduction**

- 1.1 This report is the Habitats Regulations Assessment (HRA) of the Preferred Site Options and Settlement Boundaries, which are being proposed as part of the emerging new Breckland Local Plan. The Breckland Local Plan is being prepared by Breckland Council, in order to replace the current Local Development Framework. The Breckland Local Development Framework is in the form of several planning documents adopted by the Council between 2009 and 2012, incorporating the Core Strategy, the Site Specific Policies and Proposals Document and the Thetford Area Action Plan. Each of these component plans of the current Local Development Framework was the subject of HRA.
- 1.2 The new local plan is being prepared in accordance with Government policy, to keep the local plan up to date and relevant. This time the strategic policies, development management policies and also the proposed site allocations and settlement boundaries will be provided in one planning document, which will be referred to as the 'Breckland Local Plan Part 1.' This report provides the HRA of the emerging 'Preferred Site Options and Settlement Boundaries,' which will form part of the Local Plan, and follows on from the recent HRA of the Preferred Directions. Both the Preferred Directions, which sets out the strategy and policies for growth and initial site options, and the Preferred Site Options and Settlement Boundaries, which focuses in more detail specifically on proposed development sites and settlement boundaries, will together be taken forward into the draft Local Plan Part 1, having regard for the public consultation responses on these preliminary documents.
- 1.3 A HRA considers the implications of a plan or project for European wildlife sites, in terms of any possible harm on wildlife interest that could occur as a result of the plan or project. Further explanation of the assessment process is provided below and in greater detail in Appendix 1. This HRA should be read in conjunction with the HRA for the Preferred Directions document. Where relevant background information or previously undertaken assessment is provided in the HRA of the Preferred Directions document, this report provides a brief summary, and refers the reader to the greater detail to be found within the Preferred Directions HRA.
- 1.4 When embarking on new HRA work, it is important to take stock and consider how well the measures put in place to protect European site interest have worked, and what evidence there is available to support the continuation of such measures, or to indicate that they may need modification. Therefore, in order to inform the early development of the new Local Plan, Breckland Council commissioned Footprint Ecology to produce a background and review of evidence document; which reviewed previous assessment work and evidence that should inform the new Habitats Regulations Assessment of the new Local Plan. That initial report provided the evidence assessment to inform the HRAs of consultation documents as the plan progresses, and provides detail on the evidence that supports this HRA and the recent HRA of the Preferred Directions.



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- 1.5 This report has been produced based on a draft of the Preferred Site options and Settlement Boundaries, provided to Footprint Ecology in August 2016. This HRA and the accompanying HRA of the Preferred Directions will be updated in the future alongside the Local Plan as it is progressed by Breckland Council. The next HRA will be made when the new Local Plan is ready to be published by the Council as a draft Local Plan, prior to its submission for Examination. Any post Examination modifications will also need to be checked before the HRA is complete and the Local Plan is adopted.

## Habitats Regulations Assessment process

- 1.6 Habitats Regulations Assessment is commonly abbreviated to ‘HRA’ and is the step by step process of ensuring that a plan or project being undertaken by, or permitted by a public body, will not adversely affect the ecological integrity of a European wildlife site. Where it is deemed that adverse effects cannot be ruled out, a plan or project must not proceed, unless exceptional tests are met. This is because European legislation, which is transposed into domestic legislation and policy, affords European sites the highest levels of protection in the hierarchy of sites designated to protect important features of the natural environment.
- 1.7 The relevant European legislation is the Habitats Directive 1992<sup>1</sup> and the Wild Birds Directive 2009<sup>2</sup>, which are transposed into domestic legislation through the Conservation of Habitats and Species Regulations 2010, as amended. These Regulations are normally referred to as the ‘Habitats Regulations.’ Legislation sets out a clear step by step approach for decision makers considering any plan or project. In England, those duties are also supplemented by national planning policy through the National Planning Policy Framework (NPPF). This national planning policy also refers to Ramsar sites, which are listed in accordance with the international Ramsar Convention. The NPPF requires decision makers to apply the same protection and process to Ramsar sites as that set out in legislation for European sites. Formally proposed sites, and those providing formal compensation for losses to European sites, are also given the same protection.
- 1.8 The duties set out within the Habitats Regulations apply to any public body or individual holding public office with a statutory remit and function, referred to as ‘competent authorities.’ The requirements are applicable in situations where the competent authority is undertaking or implementing a plan or project, or authorising others to do so. A more detailed guide to the step by step process of HRA is provided in this report at Appendix 1.
- 1.9 In assessing the implications of any plan or project, in this case a local plan, for European sites in close proximity, it is essential to fully understand the sites in question, their interest features, current condition, sensitivities and any other on-going matters that are influencing each of the sites. Every European site has a set of ‘interest features,’ which are the ecological features for which the site is designated or classified,

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<sup>1</sup> Council Directive 92/43/EEC

<sup>2</sup> Council Directive 2009/147/EC

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and the features for which Member States should ensure the site is maintained or, where necessary restored. Each European site has a set of ‘conservation objectives’ that set out the objectives for the site interest, i.e. what the site should be achieving in terms of restoring or maintaining the special ecological interest of European importance.

- 1.10 The site conservation objectives are relevant to any HRA, because they identify what should be achieved for the site, and a HRA may therefore consider whether any plan or project may compromise the achievement of those objectives. Further information on European site conservation objectives can be found at Appendix 2 of this report.

### **A positive approach to assessing the plan and informing its progression**

- 1.11 Local plan making proceeds through a number of stages as the plan is developed and refined, with public consultation at key stages where statutory bodies, organisations, business and the public are able to contribute to the direction of the developing plan. The Breckland Local Plan is currently at Preferred Directions stage, prior to preparing the draft Local Plan Part 1. The Council has used previous consultation responses provided by consultees at the ‘Issues and Options’ stage to inform the preferred directions for sustainable growth within Breckland District, and then consulted on a set of preferred approaches to growth with the ‘Local Plan Part 1 - Preferred Directions’ document. A further consultation at preferred directions stage is now being prepared, in order to allow the public to comment on the ‘Local Plan Part 1 - Preferred Site Options and Settlement Boundaries,’ which is being produced after further analysis of growth needs in terms of housing numbers and distribution.
- 1.12 As with the Preferred Directions document, each policy is not presented in final policy wording form at this stage, but rather the intended approach to policy wording is outlined. This gives scope for further refinement of policy wording, and therefore enables this HRA to make meaningful recommendations that can be acted upon in order to strengthen the protection afforded to European sites through the forthcoming draft Local Plan Part 1, prior to its submission for Examination.
- 1.13 It is important to recognise that a HRA is an intrinsic part of plan making. It identifies potential risks to European sites posed by an emerging policy approach, but it should also seek to find solutions that enable sustainable development to meet the needs of an area whilst protecting European sites. The HRA work being undertaken for the emerging Breckland Local Plan Part 1 recommends measures to allow plan objectives to be met whilst avoiding or minimising risk. The Council must adequately apply the protective legislation for European sites, and where solutions do not appear to be available or evidence to support a solution is not robust, it is then necessary to consider a different policy approach.
- 1.14 As described in Appendix 2, the step by step process of HRA of an emerging plan allows for continual refinement of the plan to ensure its compliance with the Habitats Regulations and at the various stages of plan development the HRA checks the document in its entirety and will advise where emerging elements of the plan may pose

a risk to European sites and therefore require further evidence gathering and/or modification.

### **New policy direction since the Preferred Directions publication**

- 1.15 The Preferred Directions 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. This included a focus on housing delivery in key settlements, including the two Sustainable Urban Extensions (SUEs) at Thetford and Attleborough. The Preferred Site Options and Settlement Boundaries document advises that the SUEs for Thetford and Attleborough will not be delivered in their entirety within the new local plan period of 2011 to 2036. These two new settlements are a key component of housing delivery for Breckland, but with recognition that they will not be able to deliver their full complement of housing before 2036, Breckland Council must seek alternative means of delivering additional housing to meet the projected housing needs during the plan period. The Preferred Site Options and Settlement Boundaries document therefore sets out a revised distribution of housing, with a higher level of provision at the larger settlements than previously presented within the Preferred Directions consultation document. Furthermore, the Preferred Site Options and Settlement Boundaries document proposes that 5% of the housing need is provided in rural areas, which is a change to the Preferred Directions document that did not include rural area development.
- 1.16 Recognition that the two SUEs will not be able to deliver their full complement of new housing prior to the end of the plan period in 2036 has necessitated a revised distribution of housing, with additional housing numbers now targeted towards existing larger settlements, in order to make up the 20% shortfall of the overall housing target for the plan period. The revised distribution also recognises that a small contribution to housing numbers can be made in rural areas, and a 5% target for rural areas is now added.
- 1.17 The Preferred Site Options and Settlement Boundaries document now includes the proposed preferred site options and settlement boundaries, along with additional consideration of the approach to development in rural areas. The analysis undertaken to inform the document included a series of Local Plan Working Group sessions over July and August 2016, and further evidence gathering after the publication of the Preferred Directions document. Together Preferred Directions consultation and the Preferred Site Options and Settlement Boundaries consultation will enable the plan to be developed further and amalgamated into the forthcoming draft Local Plan Part 1.
- 1.18 This HRA considers the specific content of the Preferred Site Options and Settlement Boundaries document. It is important to note however that the content of this document is only part of what will be provided in the draft Breckland Local Plan Part 1, and the emerging policy preferences to underpin the site options are published in the Preferred Directions document. The content of the Preferred Site Options and Settlement Boundaries document has been assessed in this report with regard for the wider policy context within which the site allocations will sit as part of the Local Plan.

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1.19 The Preferred Site Options and Settlement Boundaries document is divided into key topic chapters covering housing and distribution, employment sites and then rural settlement boundaries. The housing and distribution chapter is the predominant part of the document, and is divided into individual settlement sections. Each of these location specific sections includes mapped sites for development, which are presented as either preferred sites for growth, or as secondary alternative sites.

### European sites

1.20 There are a range of European sites within or near the Breckland District that are being checked at each plan making stage, for their potential to be affected by new growth that will be promoted by the new Local Plan Part 1. The sites considered within this report are drawn from the original HRA work on the Breckland Core Strategy (Liley *et al.* 2008), and then reviewed in the aforementioned background evidence document. The check in 2008 involved identifying all European sites that fell within a 20km buffer of the District to give an initial list. A few sites were then removed from that list because they were so far from the District and their interest/character meant there was no plausible mechanism by which impacts might occur. Sites are listed in Table 1 and the main sites are shown on Map 1.

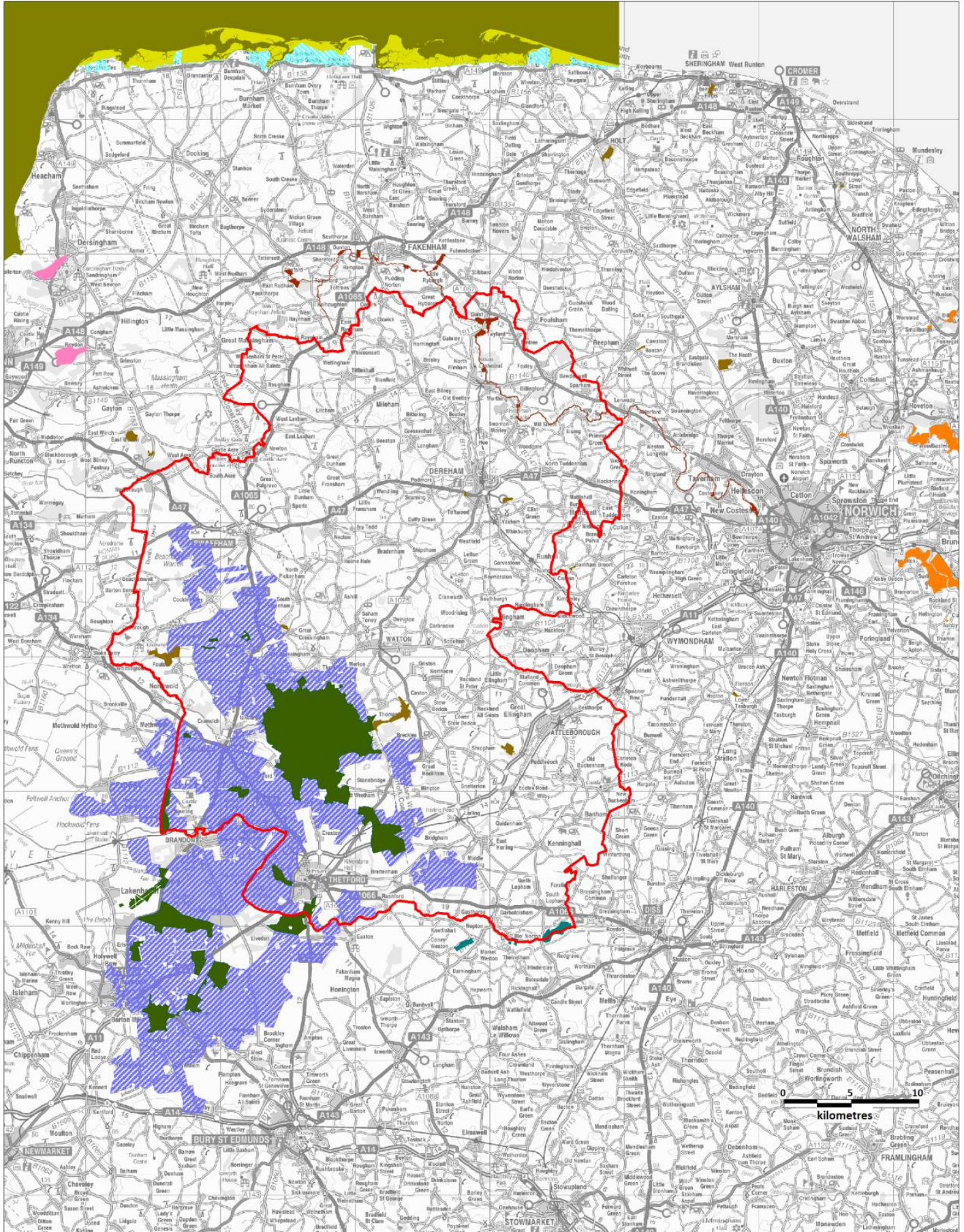
**Table 1: Relevant sites (taken from Liley *et al.* 2008)**

Breckland	Breckland	
Broadland	Norfolk Valley Fens	North Norfolk Coast
North Norfolk Coast	North Norfolk Coast	Ouse Washes
The Wash	Ouse Washes	Redgrave & Lopham Fens
Ouse Washes	River Wensum	The Wash
	The Broads	
	The Wash and North Norfolk Coast	
	Waveney and Little Ouse Valley Fens	

1.21 Appendix 3 provides site by site interest features for each European site. The background and review of evidence document provides further detail on each of the European sites.



# Map 1: European Sites



## SACs

- Breckland
- Norfolk Valley Fens
- North Norfolk Coast
- River Wensum
- Roydon Common & Dersingham Bog

## SPAs

(only areas outside SACs shown)

- The Broads
- The Wash & North Norfolk Coast
- Waveney & Little Ouse Valley Fens
- Breckland
- N Norfolk Coast
- Breckland District



## 2. Previous evidence to inform the HRA

2.1 A review of all previous HRA work and current measures in place to protect European sites is provided in summary in this section. A more comprehensive review can be found in the background and review of evidence document.

2.2 Breckland District Council currently has a suite of development plan documents in place to guide the nature and location of sustainable development for the District and inform planning decisions up to 2026, within what is known as the ‘Breckland Local Development Framework.’ The Local Development Framework consists of:

- The Core Strategy
- Site Specific Policies and Proposals
- Thetford Area Action Plan (‘TAAP’)

### Previous evidence used

2.3 The HRA work for the Local Development Framework was informed by a considerable amount of evidence gathering to establish the sensitivities of European site interest to new growth. This has since been supplemented by a range of relevant studies initiated by Breckland Council and other parties. Key evidence, explained in more detail in the background and review of evidence report, includes:

#### Visitor surveys

- Visitor surveys and visitor modelling relating to Breckland SPA sites (Thetford Forest undertaken by UEA for Breckland Council (Dolman, Lake & Bertoneclj 2008)
- Visitor survey work undertaken for other local authorities (Fearnley, Liley & Cruickshanks 2011)

#### Stone Curlew

- Original research on housing, roads and Stone Curlews commissioned by Breckland Council (Sharp *et al.* 2008a)
- Modelling of impact of additional traffic on the A11 (Clarke, Sharp & Liley 2009)
- Peer-reviewed paper mainly based on data in 2008 report with some additional analysis (Clarke *et al.* 2013)
- Additional work on Stone Curlews, focussing on impacts of buildings (Clarke & Liley 2013)

#### Nightjar and Woodlark

- Nest predation study, commissioned by Breckland Council (Dolman 2010)
- Analysis of Woodlark and Nightjar trends across Thetford Forest, to determine why population of these species is declining markedly, commissioned by Forestry Commission (Dolman & Morrison 2012)

**Table 2: Summary of adverse effects identified (and discussed in detail) in the Core Strategy HRA (Liley *et al.* 2008). Table taken from HRA for the TAAP (Liley & Tyldesley 2011)**

Potential effect	Summary of impact and related evidence
Direct impacts of built development on Annex I birds species	There is strong evidence that Stone Curlew, Nightjar and Woodlark all occur at lower densities on sites/areas surrounded by housing (Liley & Clarke 2002, 2003a; Murison 2002; Underhill-Day 2005; Langston <i>et al.</i> 2007b; Mallord <i>et al.</i> 2007).
Disturbance to Annex I birds associated with heathland and farmland habitats as a result of recreational use	Stone Curlew, Nightjar and Woodlark are all vulnerable to disturbance, which can result in sites not being used by breeding pairs and reduced breeding success (Murison 2002; Taylor 2006; Mallord <i>et al.</i> 2007; Taylor, Green & Perrins 2007)
'Urban effects'	A suite of urban effects such as fly tipping, eutrophication (e.g. from dog fouling), increased fire risk etc. are documented for heathland sites adjacent to housing (Underhill-Day 2005). Such impacts may be relevant for other habitats too.
Recreation impacts to coastal habitats and species	Coastal habitats and some coastal species are vulnerable to impacts from recreation (Saunders <i>et al.</i> 2000; Lowen <i>et al.</i> 2008; Liley <i>et al.</i> 2010).
Water abstraction	Water abstraction reduces flow in rivers and streams, lowers groundwater levels and potentially depletes aquifers. Impacts potentially occur where the interest features are aquatic or depend on water.
Discharges affecting water quality	Discharges from waste water treatment works may increase levels of nutrients in the water, leading to loss of water quality.
Contamination from flood water	Flood water can result in water flows containing high levels of nutrients or contaminants draining from urban areas into water courses and affecting European Protected sites. There are particular issues where existing sewers or drains cannot cope with water levels.
Air pollution from road traffic	Impacts typically occur within 200m of a road (Highways Agency 2005; Bignal <i>et al.</i> 2007). Increased traffic may result in a decrease in air

	quality.
Avoidance of roads by Annex I birds	Evidence that Stone Curlews occur at lower densities adjacent to main roads (Day 2003; Sharp <i>et al.</i> 2008a).

### Measures in place to mitigate for current planning policy risks

- 2.4 Informed by evidence gathered, the HRA for the Local Development Framework documents focused on the following potential impacts arising from new development:
- Reduction in SPA bird density (Stone Curlew, Nightjar and Woodlark) in proximity to new development
  - Increased disturbance of SPA birds (Stone Curlew, Nightjar and Woodlark) arising from additional recreational activity
  - Increased levels of urbanisation impacts to SAC heaths, as a result of increased numbers of people (including trampling, fly-tipping, fire risk)
  - Traffic generated air pollution affecting SAC heaths
  - Demand for new/upgraded roads leading to avoidance of habitat in close proximity by SPA birds (Stone Curlew, Nightjar and Woodlark).
- 2.5 The HRA work also included consideration of impacts on other European sites further afield; the North Norfolk Coast, The Wash, Ouse Washes and The Broads. Impacts on these sites potentially include recreational disturbance and deterioration of water supply and water quality.
- 2.6 The following mitigation measures are currently applied for the Local Development Framework, in light of the previous HRA findings and recommendations made.
- Direct effect of built development on SPA birds = policy wording and 1500m/400m zones mapped
  - Indirect effect of disturbance = policy wording committing to a recreation management, monitoring and mitigation strategy in collaboration with partners
  - Urban effects on heaths around Thetford = developer funded approach to urban heaths management and the provision of alternative green spaces
  - Recreation pressure on the North Norfolk Coast = Plan wording to commit to new research and collaboration with other neighbouring local authorities
  - New and upgraded roads = policy commitment to preventing any new roads or road improvements within 200m of Breckland SAC
  - New and upgraded roads = excluded from the 1500m Stone Curlew zone
  - Water issues = policy wording to secure flood alleviation measures and commitment to bringing forward new development in step with infrastructure and supply improvements



### Current Status of mitigation measures and recommendations for progression

2.7 The mitigation measures, in terms of their current status and progression in implementation, were reviewed in detail in the background and review of evidence report. The findings of that report should be read alongside this HRA and the HRA prepared for the Preferred Directions document. The previous HRA work is critical to the assessment now being undertaken of the emerging Local Plan, and the new HRA work is now evolving from and building upon that previous work. The previous recommendations, now currently being implemented through the Local Development Framework, were considered again as part of the Preferred Directions HRA and conclusions in relation to relevance for the emerging new Local Plan. Those conclusions from the Preferred Directions HRA are repeated here, and an update since the Preferred Directions is then provided in Section 3 of this HRA report:

- The 1500 zonation for the protection of breeding Stone Curlew remains a strong, evidence backed and essential mitigation mechanism, but that there may be scope to make improvements with regard to the interpretation and consistent application of the policy.
- The 1500m zone for birds nesting outside the SPA needs to be updated and mitigation options carefully considered.
- It is recommended that the 400m zone for project level HRA remains within policy for the new Local Plan, because Nightjars and Woodlark are declining in the Brecks and therefore possibly more vulnerable to additional pressure.
- Thetford remains a growth priority for Breckland, and therefore the proximity of the Breckland European sites boundary to the edge of the town in most directions remains a fundamental issue to overcome.
- There is an urgent need to progress an approach to manage and monitor recreational impacts for the District as a whole, and also the specific requirement to secure an evidence based, consistent and pre-agreed mitigation package for the Thetford urban heaths, in particular Barnham Cross Common. Specific options for allocations will need to be checked against current mitigation measures including the zones, proximity to Thetford urban heaths etc.
- Air pollution issues will remain a concern as the plan develops. It will be necessary to gather evidence to identify what level and location of growth may trigger the need for new roads or road upgrades, and then how such needs could be alternatively accommodated without adverse effects on European site interest.
- An update to the previous situation with regard to water supply, waste water treatment and water infrastructure is necessary to understand what progress has been made to date, what work is planned and what level of growth is still not accommodated by existing or planned work is necessary. Growth at Attleborough will need to be considered alongside the findings and further recommendations of the Water Cycle Study, and should have particular regard for the isolated site of the Norfolk Valley Fens SAC located to the south west of Attleborough.
- Tourism impacts will need to be adequately covered in the HRA as well as those arising from new residential development. There is currently a Norfolk wide project looking at recreational use of Norfolk European sites, with

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Breckland Council actively involved and contributing to this work, and that project needs to inform this Habitats Regulations Assessment.

- The emerging Local Plan should have regard for the need to maintain and restore European site interest, irrespective of new growth, seeking opportunities for a plan led approach to protecting and enhancing the natural environment, and particularly European sites.

### **3. New evidence to inform the HRA**

- 3.1 This section considers the new evidence and resultant analysis that now informs the HRA work for the emerging Breckland Local Plan Part 1 and is specifically considered as part of this HRA for the Preferred Site Options and Settlement Boundaries document. This provides an update on evidence, subsequent to that which was used to inform the recent HRA undertaken for the Preferred Directions document.

#### **Updated Stone Curlew data**

- 3.2 More recent Stone Curlew data are available, with annual monitoring data collated annually by the RSPB. These data have been obtained and used to check the distribution outside (but functionally-linked) to the SPA. The results of data checks are set out in more detail within the appropriate assessment section of this HRA.

#### **Updated GIS analysis of sites proposed for development**

- 3.3 The Preferred Site Options and Settlement Boundaries document provides detailed preferred policy in relation to the Breckland settlements. The HRA for the Preferred Directions document included an initial set of preferred and alternative sites for development. As described earlier, this has now been revised by the Council and an updated set of preferred and alternative sites is now being consulted upon as part of the Preferred Site Options and Settlement Boundaries document. The HRA of the Preferred Directions document undertook GIS analysis of the preferred and alternative sites, to identify any risks. That analysis has been re-run for the updated set of sites.

#### **Norfolk wide evidence gathering on recreation impacts**

- 3.4 Visitor survey work has been undertaken across Norfolk (during 2015 and 2016) as part of strategic work commissioned by Norfolk County Council on behalf of all Norfolk local authorities. The survey work included European sites across the county and a selection of access points that were ones where it was thought there could be issues relating to access and nature conservation. Survey work was timed when issues were most likely to occur. The report has not yet been finalised but is available in draft. It included considerations of the likely scale changes in access as a result of development in the current plan period. A 14% increase in access by Norfolk residents to the sites surveyed (in the absence of any mitigation), was predicted as a result of new housing during the current plan period. The increases for sites in the Brecks were much higher than the Norfolk-wide 14% increase and as such development in the Breckland area, due to its proximity and scale, has particular implications in terms of recreation. These results are relevant in considering the impacts from the overall quantum of development and the likely scale of change in recreation at sensitive sites.

#### **4. Screening the plan for likely significant effects**

- 4.1 At the screening stage of HRA for a plan, there is the opportunity to identify changes to the plan that could be made to avoid risks to European sites. The screening for likely significant effects is an initial check to identify risks and recommend any obvious changes that can avoid those risks. The Preferred Site options and Settlement boundaries document has been prepared by the Council as a standalone document for consultation purposes, but it will form part of the draft Breckland Local Plan Part 1. This screening assessment therefore specifically covers the content of the consultation document, but recognises that the settlement options are proposed in the context of wider policy already published as Preferred Directions.
- 4.2 The screening table at Appendix 4 records the screening undertaken on the Preferred Site Options and Settlement Boundaries document. All sections of this document have been checked for risks to European sites. The table at Appendix 4 therefore records the conclusions drawn and recommendations made for each of the emerging policy preferences for site options to deliver growth as part of the new Local Plan.
- 4.3 It provides recommendations for text changes or additions within the plan. Text changes are recommended in the screening table where there is a clear opportunity to avoid impacts on European sites through policy strengthening. In such instances the risk is not such that further assessment of impacts is required, but rather that the impacts can be simply avoided with straightforward changes to the plan. The table, as with any part of this assessment, is not finalised until the plan itself is finalised, and the screening stage may be revisited at any point during plan preparation.
- 4.4 Where risks to European sites are identified but further scrutiny of information, further evidence gathering or assessment of the nature and extent of impacts is required, the screening table records a recommendation for those aspects of the plan to be taken to the next stage of HRA, which is the more detailed ‘Appropriate Assessment’ stage. Appropriate assessment for risks to European sites that require further and more detailed analysis is set out in section 5.
- 4.5 The screening identifies where a particular aspect of the plan should be taken to the appropriate assessment stage. When those identified aspects of the plan are brought forward for appropriate assessment, it is clear that they can be categorised under a small number of key themes. By structuring the appropriate assessment under these themes, the issues can be assessed in a logical and scientific way, with relevant evidence for each theme scrutinised. The key themes that are considered for this HRA of the Preferred Site Options and Settlement Boundaries document correspond to those initially raised as part of the Preferred Direction HRA screening, and are as follows:
- Urban effects, which include trampling, increased fire risk, eutrophication
  - Reduced densities of SPA bird species in response to increased development presence

## H R A of Breckland Local Plan – Preferred Site Options and Settlement Boundaries

- 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

4.6 The key themes emerge because the screening check has identified a risk to European sites that cannot be avoided. Those risks are present because there is a potential ‘pathway’ between the policy proposal in the plan, and one or more interest features of the European site. In other words, there is an identifiable process by which the interest feature could suffer harm. Figure 1 below provides an illustration of the impact pathways identified and the European sites potentially affected. These key themes were assessed as part of the Preferred Directions appropriate assessment. The appropriate assessment sections of this report for the Preferred Site Options and Settlement Boundaries document now summarise previous findings as part of the Preferred Directions HRA, and highlight any additional issues in light of the content of the Preferred Site Options and Settlement Boundaries document. The sections consider the issues previously raised as part of the Preferred Directions HRA and how those issues are now being resolved.

HRA of Breckland Local Plan – Preferred Site Options and Settlement Boundaries

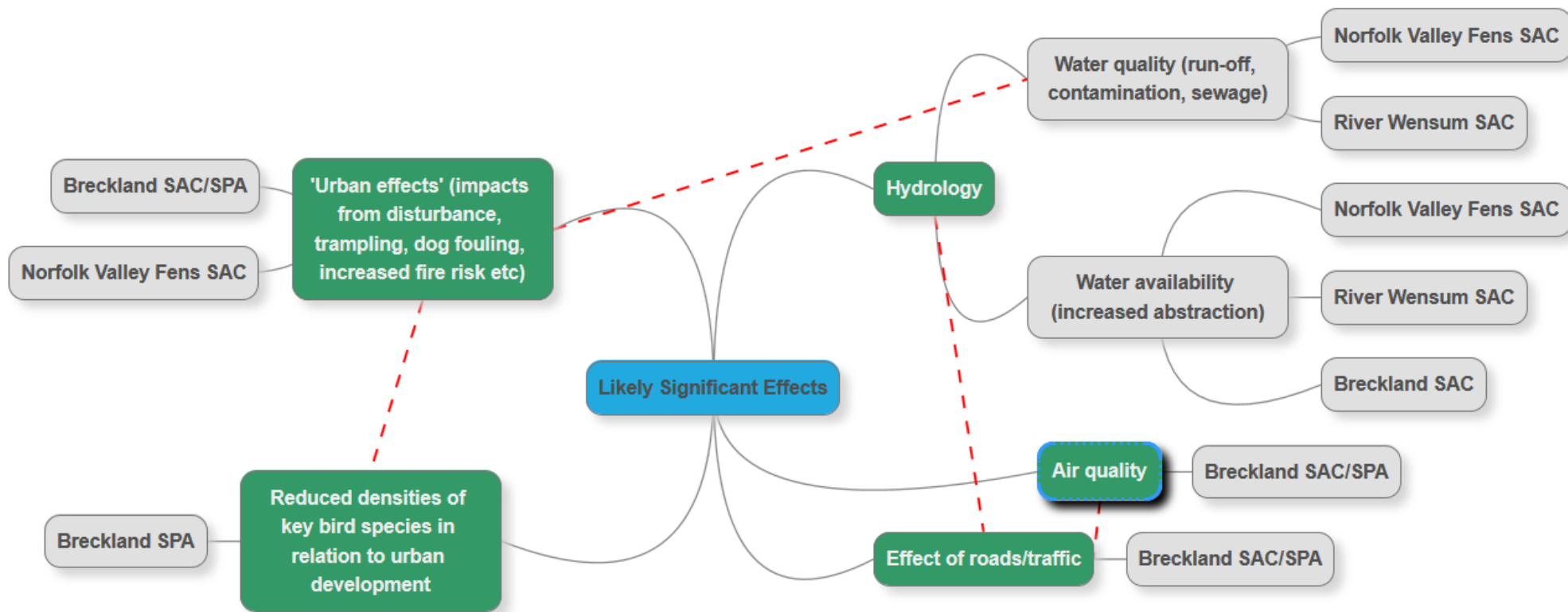


Figure 1: Pathways by which Likely Significant Effect is triggered by different elements within the plan. This diagram outlines the structure of the Appropriate Assessment section of the report, with green shading reflecting headings within the Appropriate Assessment. Red dotted lines reflect closely related impact pathways

## 5. Appropriate Assessment – Overview and Scope

### Setting the context for the appropriate assessment

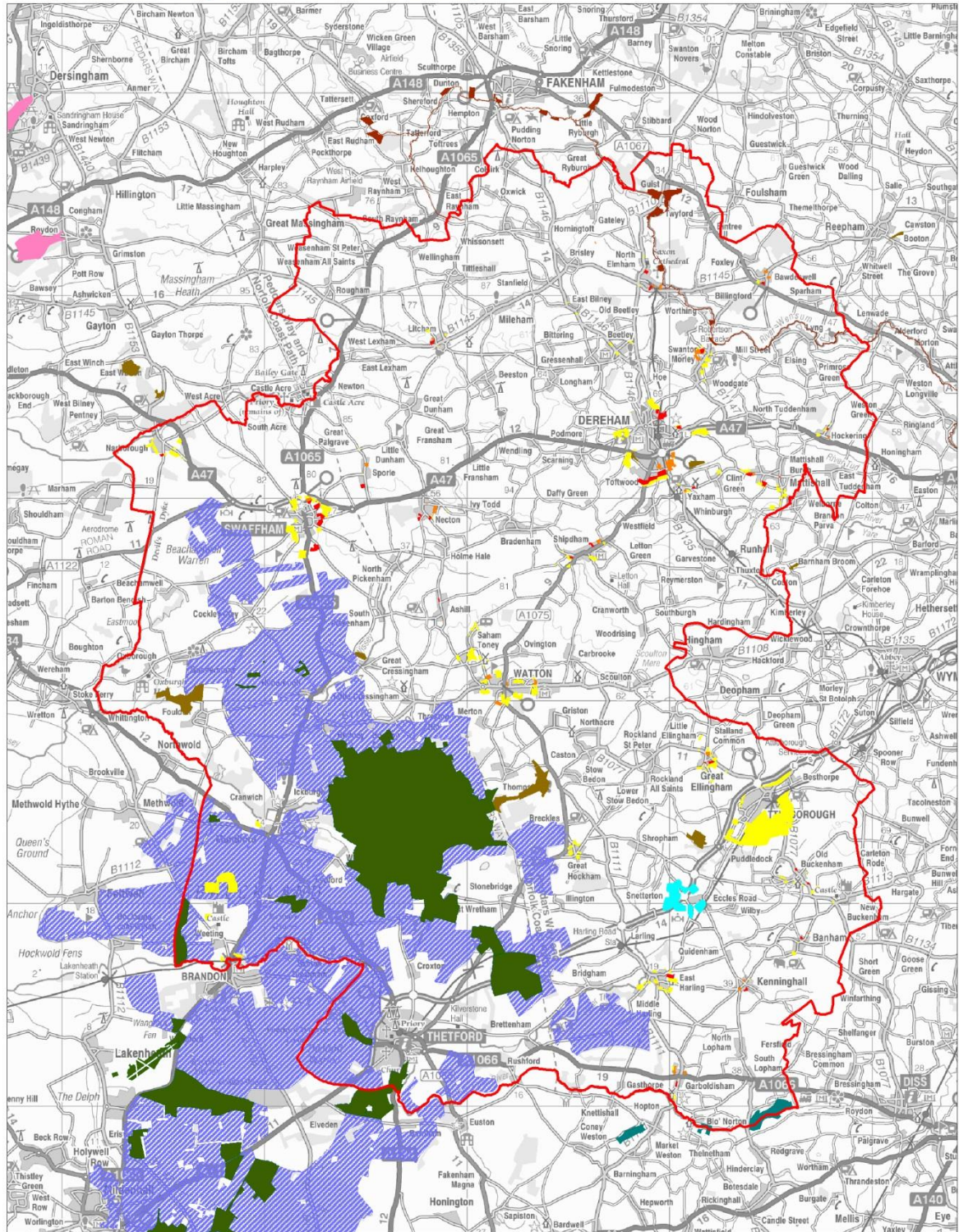
- 5.1 The Appropriate Assessment stage of Habitats Regulations Assessment is the point at which potential impacts are ‘assessed.’ Prior to this, the HRA focuses on screening and making decisions about whether there is a potential risk, taking a precautionary approach and assuming the presence of a risk to European sites where there are uncertainties. The appropriate assessment stage assesses risks in light of available information, drawing upon specialist expertise to interpret that information. Appendix 1 provides more detail on the HRA process and includes a diagrammatic representation of the step by step approach at Figure 2.
- 5.2 An appropriate assessment should gather together and analyse available evidence, or where necessary inform studies to provide new evidence, in order to conclude whether the plan or project can proceed without resulting in adverse effects on the integrity of any European site. In undertaking this assessment, consideration should be given to all available measures that could be added to the plan or project, or could restrict or modify the plan or project, in order to be able to draw a conclusion of no adverse effects. Mitigation measures should themselves be adequately backed up by evidence to have confidence that they are fit for purpose.
- 5.3 It is important to understand that the Local Plan is the framework to oversee sustainable development, and that therefore means that it is a plan for social, economic and environmental growth, together. The plan does not simply deliver physical development, it is equally in place to secure the social and environmental needs of the Breckland District as well as maintain a healthy economy and allow new housing. The different aspects of sustainable development should not be considered in isolation; rather the plan should bring together the objectives for each, and set out a means by which all can be delivered.
- 5.4 The HRA work to inform the Local Plan therefore has a role to play in supporting delivery of economic and social growth, in the same way that economic and social aspects of the plan have a role to play in supporting the protection, restoration, expansion and enhancement of natural assets. In undertaking the appropriate assessment for the Preferred Site Options and Settlement Boundaries document, it is necessary to have regard for the deliverability of mitigation measures to protect European sites, and how they might affect, positively or negatively, the objectives of the plan. That is not to say that a HRA should be compromised. It is that any opportunities should be recognised.
- 5.5 As described in the previous section, the appropriate assessment sections take each impact theme derived from the screening for likely significant effects. The following sections of appropriate assessment cover the impact themes in Figure 1. The plan seeks to deliver ‘no less than 14,925 new dwellings and all associated infrastructure over the plan period 2011-2036.’ The overall quantum of housing, and growth at the SUEs has

already been considered in previous HRA work. Each theme was previously assessed as part of the Preferred Directions HRA, and under each theme a summary of previous appropriate assessment is given, before updating on any issues that were previously identified as in need of resolution.

- 5.6 Effects on European sites can arise from a number of types of growth; residential, employment, tourism, social infrastructure etc. Each section therefore refers to the likely sources of risk to European site interest features and considers appropriate mitigation, in light of an assessment of the impacts. The European sites within and around the Breckland District are predominantly accessible, and their unique characteristics, beauty and tranquillity make them a valuable asset to the District in terms of its economy and tourism industry. They are also one of the predominant reasons why people choose to reside in the Norfolk area. These points are relevant to the appropriate assessment and the likely effectiveness of any mitigation options to protect European site interest features. As the HRA work progresses and the Local Plan is finalised, these points will continue to be checked, to ensure that the final mitigation approach is not in conflict with the overall objectives of the Local Plan.
- 5.7 Map 2 illustrates the proposed housing locations and their proximity to European sites. The GIS data were provided to Footprint Ecology in August 2016. In Map 2 we have shown the locations alongside those considered in the previous HRA (preferred directions). The alternatives shown on the map remain potential options at this point in the development of the Local Plan, but are less likely to be taken forward due to more unfavourable sustainability assessment and conformity with current preferred directions for level and location of growth.
- 5.8 The distance from European sites is of relevance for the appropriate assessment in terms of impact pathways, mitigation needs and whether mitigation is possible. Where relevant, the data shown in Map 2 are used in the appropriate assessment sections below.



Map 2: Housing locations and European sites



**SACs**

- Breckland
- Norfolk Valley Fens
- River Wensum
- Roydon Common & Dersingham Bog
- Waveney & Little Ouse Valley Fens
- Winterton-Horsey Dunes

**SPAs (only areas outside SACs shown)**

- Breckland
- Breckland District

**Sites included in this assessment**

- Alternative
- Preferred
- Employment sites
- Sites considered in previous HRA

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## 6. Appropriate Assessment – Presence of Buildings/Development

- 6.1 This section of the appropriate assessment considers the presence and level of built development in terms of the effect it may have on SPA birds, i.e. their response in terms of their habitat use in proximity to development.

### Findings from previous HRA at Preferred Directions

- 6.2 Studies from the UK that compare densities of Stone Curlew, Nightjar and Woodlark along an urban gradient show that reduced densities occur where development levels are high (Liley & Clarke 2003a; Mallord 2005; Liley *et al.* 2006b; Sharp *et al.* 2008a; Clarke & Liley 2013).
- 6.3 For Nightjar and Woodlark the various studies (Liley & Clarke 2003a; Mallord 2005; Liley *et al.* 2006a) involve sites with public access. The reduced densities on sites with high levels of nearby housing may therefore relate to impacts from recreation (Murison 2002; Mallord *et al.* 2007) and/or other factors such as increased cat predation (Beckerman, Boots & Gaston 2007; Baker *et al.* 2008; van Heezik *et al.* 2010; Floyd, L & Underhill-Day, J C 2013), increased fire risk (Kirby & Tantram 1999; Underhill-Day 2005) or other ‘urban effects’ (see Underhill-Day 2005 for review). We consider urban effects and recreation separately as discrete appropriate assessment sections later in this report. This section of the appropriate assessment therefore focuses on impacts on Stone Curlew.
- 6.4 This section considers the new evidence and resultant analysis that now informs the HRA work for the emerging Breckland Local Plan Part 1 and is specifically considered as part of this HRA for the Preferred Site Options and Settlement Boundaries document. This provides an update on evidence, subsequent to that which was used to inform the HRA undertaken for the Preferred Directions document.

### Assessment for Preferred Site Options and Settlement Boundaries

#### New analysis in light of up to date Stone Curlew data

- 6.5 New Stone Curlew data has been obtained from the RSPB, which covers the period 2001 to 2015. This provides an opportunity to revise the buffer zones for Stone Curlew, which were previously applied as part of the HRA work for the Breckland Local Development Framework. This new analysis builds on the HRA work done for Breckland Council for the Preferred Directions, and will strengthen the policy approach to protecting Stone Curlew, in light of the most up to date information available.
- 6.6 In order to avoid impacts of built development on Stone Curlews, the current Breckland Local Development Framework policies within the various planning documents includes a 1500m zone around the parts of the Breckland SPA where Stone Curlews are present. Within such a zone a likely significant effect from new development is presumed at the

plan level and adverse effects cannot be ruled out<sup>3</sup>. This zone was originally defined as part of HRA work undertaken around 2008 (following analysis of Stone Curlew distribution and housing; Sharp *et al.* 2008). We now refer to this buffer as the ‘primary buffer’.

6.7 The Stone Curlew population is currently increasing and the birds use areas outside the SPA boundary for both breeding and foraging. To provide protection for Stone Curlews that were nesting outside the SPA, but likely to be part of the same SPA population, planning policy such as the Breckland Core Strategy identified supporting habitat areas outside the SPA where birds had regularly nested. A criteria based on 1km grid cells that had held 5 or more Stone Curlew nests over the period 1995-2006 was used to identify areas outside the SPA that had been regularly used, and a 1500m buffer then applied to these areas<sup>4</sup>. Within this second buffer, it was concluded that likely significant effects would be triggered by new development and project level HRA would be required. As the potential impact related to supporting habitat rather than core habitat within the SPA, it was anticipated that alternative supporting habitat to provide the same function could be provided as mitigation. We refer to this buffer, relating to areas outside the SPA boundary, as the secondary buffer.

6.8 In light of new survey data it is now timely to review the buffers previously used. While there is still strong evidence that the 1500m distance is appropriate (Clarke, R. & Liley 2013; Clarke *et al.* 2013), it is important to ensure up to date data are used to reflect the areas of the SPA used by Stone Curlews and the areas outside the SPA that are also important.

#### Revised Buffers

6.9 More recent Stone Curlew data has been provided by the RSPB and we have used that data (2011-2015 inclusive) to review the buffer relating to supporting habitat outside the SPA. We have used five years of bird data as survey coverage has varied between years to some extent. The RSPB provided data on which areas had been surveyed for the period 2011-2015 (i.e. where surveys had been undertaken during the five year period), but did not break down survey effort between years. The choice of five years allows us to match bird data and survey coverage.

#### 1500m buffer for the SPA (‘primary buffer’)

6.10 A 1500m buffer was drawn around the Breckland SPA, with the exception of the following:

- The entirety of Cranberry Rough, Hockham SSSI and the Rex Graham Reserve SSSI were excluded as neither support habitat suitable for Stone Curlews
- Breckland Forest SSSI was largely excluded. A review of Stone Curlew data showed parts of units 1 and 3 had supported nesting attempts by Stone

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<sup>3</sup> Unless that development is within existing urban areas and is in-fill

<sup>4</sup> The buffer is included in the Breckland Core Strategy on page 27, 2.6 key diagram: it is represented by blue hatching



Curlew during the period 2011-15. Relevant compartments<sup>5</sup> (based on SSSI unit GIS layer) were buffered.

**1500m for the areas outside the SPA ('secondary buffer')**

- 6.11 Areas outside the SPA that have supported a reasonable number of recent nesting attempts were identified as follows:
- We used a grid of 1km squares, aligned to the National Grid
  - We used Stone Curlew data provided under licence by the RSPB to identify cells that were outside (but within 3km of the SPA boundary) and had held at least 5 nesting attempts (2011-2015 inclusive).
  - These cells were buffered by 1500m.
- 6.12 We excluded any cells that were more than 3km from the SPA boundary as Stone Curlews are now more widely distributed across East Anglia and clearly at some point there is potential that land is not functionally-linked to the Breckland SPA. The choice of 3km was made because most Stone Curlew activity is with 1km of the nest (Green, Tyler & Bowden 2000) and evidence indicates that development impacts occur over a 1500m distance, 3km should therefore adequately encompass the majority of birds' foraging requirements and absorb any impact of development. Radio-tracking (Green, Tyler & Bowden 2000) indicates a maximum home range of 3km and at distances beyond 3km it is suggested that risks would not be significant for the SPA population. The 3km distance is therefore suggested as the limit to which the mitigation requirements would apply and the limit to which any lower tier plan or project level HRA would need to be undertaken (notwithstanding the need to still assess impacts on Stone Curlew in order to fulfil other legislative and policy requirements in relation to wild birds).
- 6.13 A challenge with the definition of the secondary buffer is that survey coverage is incomplete. As described above the RSPB provided a GIS layer to which allowed us to identify areas with no survey coverage for the 2011-2015 period. Any grid cell (where at least part of that cell is within 3km of the SPA boundary) with less than 50% of the area covered by the RSPB survey coverage was identified.

**Revised Map**

- 6.14 The resulting map is shown in Map 3. The dark green solid shading shows the SPA and the red hatching around the SPA is the 1500m buffer (the primary buffer). Blue lines reflect the 'secondary' buffer – based on 1km cells that held at least 5 nesting attempts 2011-2015 and relates to cells within 3km of the SPA only. In addition, orange grid cells show areas where there are no or limited (less than half the area) survey data available from the RSPB. As the RSPB data is focussed on the key areas for Stone Curlews, some of these cells may contain unsuitable habitat. Only 1km cells where at least part of the cell is within 1500m of the SPA (with Stone Curlews) are shown. These orange cells

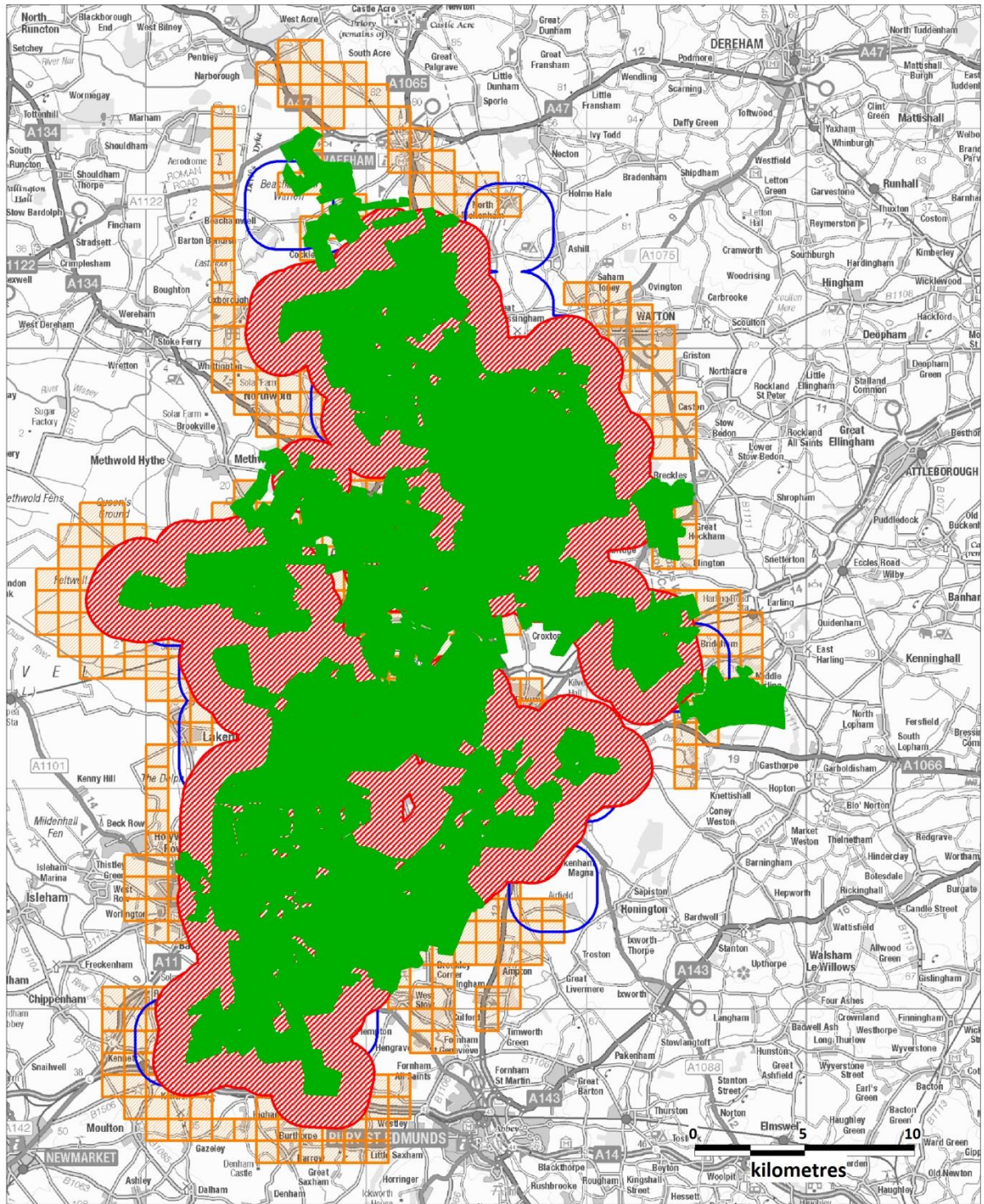
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<sup>5</sup> Some units within this SSSI are large, but are subdivided into compartments, and only those compartments with stone curlew nesting attempts were buffered – three compartments in total.

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therefore are ones where there are data gaps and additional data checks or survey data may be required to check for use by Stone Curlews.

Map 3: Stone Curlew buffers



- Breckland SPA
- 1500m buffer, SPA (with stone curlews)
- 1500m buffer for 1km cells outside SPA that hold 5+ nests, 2011-15
- 1km grid cells where less than half area surveyed

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### Check of revised buffers against locations within the Preferred Sites Options and Settlement Boundaries

- 6.15 Using the updated buffers in Map 3, GIS data provided by Breckland Council were checked.
- 6.16 One site was found to intersect the 1500m primary buffer. This site (LP[104]017, at Watton) is a 4.7ha greenfield site located on grade 3 agricultural land, and it is included as an alternative option. Following initial advice to Breckland Council the Preferred Site Options and Settlement Boundaries document does highlight that the site lies with the 1500m buffer. We cannot rule out adverse effects on integrity for this location, and as such it should be removed as an option from the plan or the boundary revised to ensure any development would be beyond 1500m from the SPA.
- 6.17 In addition a number of locations were found to be between 1500m and 3km from the SPA where survey data is lacking, and a precautionary approach should therefore be taken. Project level HRA will need to assess the habitat suitability and any need for additional survey work. These locations are:
- LP[104]001
  - LP[097]006
  - LP[097]008
  - LP[104]008
  - LP[097]009
  - LP[097]013
  - LP[097]010
  - LP[065]008
  - LP[104]015
  - LP[097]018
  - LP[104]017

### Mitigation/Implications for Draft Plan

- 6.18 The revised map and accompanying explanation will need to form part of the draft Local Plan. This will update current policy, which includes the primary and secondary buffers. The updates to existing policy are therefore recommended as follows:
- Continued use of the primary buffer of 1500m. Original evidence for the Local Development Framework (Sharp *et al.* 2008a) and subsequent reviews of that evidence (Clarke, R. & Liley 2013; Clarke *et al.* 2013) confirm that this buffer remains valid.
  - Continued use of a secondary buffer, with Stone Curlew nesting evidence between 1500m and 3km from the SPA. Again the above evidence confirms that this approach should be continued.
  - Use of a 3km finite distance from the SPA, to define the SPA population. This distance, and the evidence to underpin it, is detailed in the Preferred Directions HRA.
  - Identification of areas between 1500m and 3km from the SPA where survey data is lacking, and a precautionary approach should therefore be taken. Project level HRA will need to assess the habitat suitability and any need for additional survey work.
- 6.19 Additional explanatory text should be added to the plan in order to advise on the updated data analysis in light of new survey information.

- 6.20 The option at Watton (LP[104]017) that falls within the 1500m primary buffer needs to be removed or the boundary modified to ensure no development within 1500m of the SPA (parts used by Stone Curlews) is promoted within the plan.



## 7. Appropriate Assessment - Urban effects (including recreational disturbance)

### Findings from previous HRA at Preferred Directions

- 7.1 By ‘urban effects’ we refer to a range of impacts such as disturbance to Annex I bird species, eutrophication (e.g. from dog fouling), trampling, increased fire risk, habitat damage from recreational use such as biking, off-road vehicles etc, introduction of alien plants, litter, fly-tipping, predation from cats etc. Proximity to urban centres and high population pressure means these impacts are all exacerbated and as a result particular management measures are often required. Furthermore, with growing urbanisation, sites are at risk of becoming isolated and fragmented, leading to long terms risks of species loss and inability for species to recolonise.
- 7.2 The issues relate to the Breckland SAC and Breckland SPA interest, and also to the Norfolk Valley Fens SAC (see Table 3 for summary). Further background to the issues relating to urban effects can be found in the previous Habitats Regulations Assessment work relating to the Core Strategy and to the Thetford Area Action Plan (Liley *et al.* 2008; Liley & Tyldesley 2011).
- 7.3 We included disturbance to birds here, rather than as a separate section (in contrast to earlier assessment work, such as the Core Strategy). In setting out a logical appropriate assessment of potential impacts arising from growth in Breckland, the consideration of all urban effects together seems most appropriate.
- 7.4 Within ‘urban effects’ we have not included direct impacts of the built environment for Annex I birds, this is addressed in the previous section. Also closely linked are air quality and hydrological issues such as run-off; these are considered as subsequent appropriate assessment sections.

**Table 3: Summary of urban effects and relevance to particular European sites**

Eutrophication (e.g. dog fouling)	Predation from cats	Eutrophication (e.g. dog fouling)
Trampling	Disturbance to Annex I birds	Trampling
Increased fire risk	Increased fire risk	Habitat damage from recreation
Habitat damage from recreation		Introduction/spread of alien plants
Introduction/spread of alien plants		Litter/fly tipping
Litter/fly tipping		

- 7.5 In the previous HRA at Preferred Directions options were mapped and checked as to whether any of the directions for development lie adjacent to the relevant European sites. We identified a number of sites within 400m of relevant European site boundaries. The choice of 400m was a pragmatic one. A zone of 400m has been used in other areas (for example the East Devon Pebblebed Heaths, the Dorset Heaths and the Thames Basin), with the 400m selected as a distance at which the impacts from built development, and some urban effects cannot be mitigated for. The use of a 400m

distance is also referred to in the Breckland Core Strategy<sup>6</sup> and discussed within both the Core Strategy and Thetford Area Action Plan Habitats Regulations Assessments (Liley et al. 2008; Liley & Tyldesley 2011). Development options beyond 400m may also have impacts through urban effects, but 400m is a useful measure to identify locations where development may be unable to proceed and where particular concerns may be triggered.

### Assessment for Preferred Site Options and Settlement Boundaries

- 7.6 Using GIS data provided by Breckland Council checks were made as to whether any of the options fell within 400m of relevant European sites. The checks highlighted that none of the residential options in the GIS data fell within 400m of the Breckland SPA/SAC and none fell within 400m of the Norfolk Valley Fens SAC.

### Mitigation/Implications for Draft Plan

- 7.7 Locations within 400m of the relevant European sites are ones adverse effects on integrity cannot be ruled out and mitigation is likely to be difficult or impossible to deliver. In accordance with the extensive evidence base supporting previous Habitats Regulations assessment work, and indeed that relating to other locations around the country, it is advised that beyond 400m urban effects may still occur but mitigation should be possible.
- 7.8 The scale of development within the Preferred Directions was proposed at 14,925 new dwellings, representing an increase of around 25% in the number of dwellings within Breckland District<sup>7</sup>. The Preferred Site Options and Settlement Boundaries proposes a similar overall level of development but additional locations are included as it is now recognised that the Sustainable Urban Locations identified in the Preferred Directions will not be delivered in their entirety during the plan period. Additional locations are therefore required in order to deliver the identified housing need.
- 7.9 This level of growth is marked and will occur in a relatively short time period (to 2036). Previous assessment work (Liley *et al.* 2008) reviewed visitor survey results from Breckland and highlighted the large and relatively contiguous area of forest and heath with current access and the relatively small human population resident in Breckland. This represents a marked contrast to some other areas such as the Thames Basin Heaths and Dorset Heaths where fragments of heathland occur surrounded by housing and urban environments. It is therefore perhaps not surprising that among the range of studies of Nightjar or Woodlark and disturbance in the UK, work from Thetford Forest is one of the few studies to have found no current impacts from recreation (see Preferred Directions HRA for detail of references and studies reviewed).
- 7.10 The scale of change within Breckland is such that there will be growing pressure for recreation within the Breckland SPA/ SAC and at some point in the future it is possible that impacts may occur. The emerging visitor survey results from the Norfolk wide

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<sup>6</sup> See paras 2.48,

<sup>7</sup> Postcode data from February 2015 indicates around 59,000 residential properties within Breckland District

surveys highlight the scale of change in access that is likely. The survey results were used to make predictions of the scale of change as a result of new housing in the current plan period. The predicted increase was most marked in the Brecks compared to all the other European sites considered in the report. At the surveyed locations within Breckland the results suggested an increase in visitor use of around 30% as a result of future housing (in the current plan period) within Norfolk. The large increase is due to the large increases in housing within relatively close distances.

7.11 Breckland Council, as a competent authority under the Habitats Regulations, should seek to put in place measures to maintain sites and prevent their decline. To allow decline and then seek to rectify it is not in accordance with the objectives of the legislation and the purpose of the European site network. Long term monitoring of recreation levels and potential for urban effects is therefore relevant and important for Breckland Council to establish as an early warning mechanism, to ensure that site integrity continues to be maintained and that conservation objectives for the site are not affected.

7.12 In line with previous assessment work and the Breckland Core Strategy, it needs to be recognised that at a point where levels of access are sufficient to raise concerns, prior to any actual deterioration, mitigation will need to be secured for development. Mitigation would include measures to keep dogs on leads, raise awareness among visitors of the conservation importance of sites they are visiting and to provide alternative (less sensitive) sites and routes as relevant. Further discussion is provided in Liley *et al* (2008; see sections 12.3 and 12.4). Previous planning policy in the Core Strategy committed to recreation management, monitoring and mitigation in collaboration with partners. It is recommended that these commitments are reiterated again in the new emerging Local Plan, and that clarity is given as to the approach to be taken for monitoring, relevant partners involved, and importantly, when that will be implemented.

## 8. Appropriate Assessment – Traffic and Road Improvements

### Findings from previous HRA at Preferred Directions

- 8.1 The Preferred Options document identified a number of new roads and road improvement requirements associated with the proposed growth. These included the new Attleborough link road to serve the proposed sustainable urban extension, improvements to the A47, junction improvements to serve the Thetford sustainable urban extension and it was also noted that with the promotion of A11 corridor development there may also be additional junctions and slip-roads. In addition to these specific improvements, the level of growth proposed for the District has the potential to lead to additional traffic, District-wide.
- 8.2 Traffic increases and changes in road use that increase congestion can lead to air quality deterioration that can affect sensitive interest features within European sites. New road and junction improvements in close proximity to European sites can result in land take, either from the European site itself or from habitat in close proximity that either supports or buffers European site interest features. Furthermore there is strong evidence of impacts of roads on the distribution of Stone Curlews.
- 8.3 These issues are considered in the Preferred Options HRA, which included a map of all roads and reviews of potential impacts in relation to the European Sites. The Preferred Directions HRA highlighted that the appropriate assessment section for roads would need to be revisited once the infrastructure provision section of the Local Plan is progressed and the links between the Local Plan and other planning documents relating to infrastructure are understood.

### Assessment for Preferred Site Options and Settlement Boundaries

- 8.4 No new roads or road infrastructure is set out in any detail within the Preferred Site Options and Settlement Boundaries. As such no additional concerns are identified beyond those identified in the previous HRA at Preferred Directions.

### Mitigation/Implications for Draft Plan

- 8.5 There are general concerns relating to increases in road traffic and air quality, furthermore there are potential impacts of roads for Stone Curlews and new roads/road junctions could result in land take. The current Site Options and Settlement Boundaries document does not set out details of any new road infrastructure. However, in line with the previous assessment work at Preferred Directions, we flag these issues as ones that need to be revisited as the plan develops beyond preferred options. Traffic modelling and predictions of changes in air quality as a result of new development will need to be made before adverse effects can be ruled out. Checks of traffic flows on key roads and implications for Stone Curlews will also need to be considered.

## 9. Appropriate Assessment - Water

### Findings from previous HRA at Preferred Directions

- 9.1 Issues relating to water that pose potential risks to European sites include flood risk, deterioration of water quality, reduced water resources, alterations to river flow, and changes to hydrological processes.
- 9.2 Sites of particular relevance are:
- Breckland SAC (includes the fluctuating water bodies fed by ground water from the chalk aquifer, water availability will be critical for these features)
  - Norfolk Valley Fens SAC (water availability, flooding, water quality and changes to hydrology have the potential to fundamentally affect these relatively isolated fen sites)
  - River Wensum SAC (water availability, flooding, water quality and changes to hydrology have the potential to fundamentally affect the interest of the river)
- 9.3 A new Water Cycle Study and Strategic Flood Risk Assessment are both currently in preparation, to support the new Local Plan.

### Assessment for Preferred Site Options and Settlement Boundaries

- 9.4 In the previous HRA at Preferred Directions concern was raised regarding sites in close proximity to the Norfolk Valley Fens SAC. Natural England had advised Footprint Ecology of concerns regarding this SAC and issues with run-off, contamination etc., which are also highlighted within the site improvement plan for the site. Checks of GIS data provided by Breckland Council indicate that no allocations included within the Preferred Site Options and Settlement Boundaries are within 400m of the Norfolk Valley Fens.
- 9.5 Checks did however indicate that two allocations within 400m of the River Wensum SAC. For these locations (LP[070]006 and LP[070]007) there may be concerns with run-off and contamination of the river. These concerns are specifically included in the text for both options and the potential need for mitigation is highlighted.

### Mitigation/Implications for Draft Plan

- 9.6 At this time of producing the previous HRA at Preferred Directions, the Water Cycle Study and Strategic Flood Risk Assessment are not yet finalised. This section of the Habitats Regulations Assessment will therefore be updated at the Submission stage of plan making, when these key pieces of evidence become available. Detailed consideration will be required to cover the potential implications of increased discharge of treated water from waste water treatment works, in terms of impacts on flow and water quality where relevant to European Sites. These matters will require liaison with Anglian Water to secure the necessary information to support any conclusions drawn.

## 10. Summary and Next Steps

- 10.1 This HRA adds to the building body of HRA work to support the Breckland Local Plan, and will continue to be updated until the Local Plan is finalised. The next stage of plan making for Breckland is the preparation of the draft Local Plan, which will be informed by HRA again.
- 10.2 The screening for likely significant effects, explained in Section 3 and recorded in the screening table at Appendix 4, will be revisited as the draft plan is prepared, to check that recommendations to avoid impacts on European sites have been incorporated into the plan. Section 5 onwards provide the more detailed appropriate assessment where issues raised at the screening stage for both the Preferred Directions document and the Preferred Site Options and Settlement Boundaries document required further consideration and reference to available evidence. The appropriate assessment sections of this report summarise and build upon the assessment undertaken for each of the key themes as part of the Preferred Directions HRA, and identify key mitigation measures that will need to be embedded in the delivery of the plan and development management processes.
- 10.3 Key information gaps identified as part of the Preferred Directions HRA were the Water Cycle Study and Strategic Flood Risk Assessment and Stone Curlew data from 2011 to 2015. Natural England and RSPB had advised that the assessment should be informed by more up to date Stone Curlew data and this has been obtained and revised buffers/zones derived. These will now need to be cross-referenced in future versions of the plan. We have used the updated buffers to check the allocations in the Preferred Site Options and Settlement Boundaries and these checks highlighted one location that was partly within the 1500m primary buffer. For this allocation, at Watton, we advise that adverse effects on integrity cannot be ruled out and the boundary of the allocation should be modified or the allocation removed. Further checks relating to air quality/traffic impacts are necessary and also the findings of the latest water cycle study need to be included in later assessment work.
- 10.4 It is important to note that this HRA only assesses part of the proposed Local Plan Part 1, and relies upon the recommendations made for policy changes in the Preferred Directions HRA to be acted upon. This would include for example the strengthening of the natural environment policy wording and specific commitments in relation to green infrastructure.

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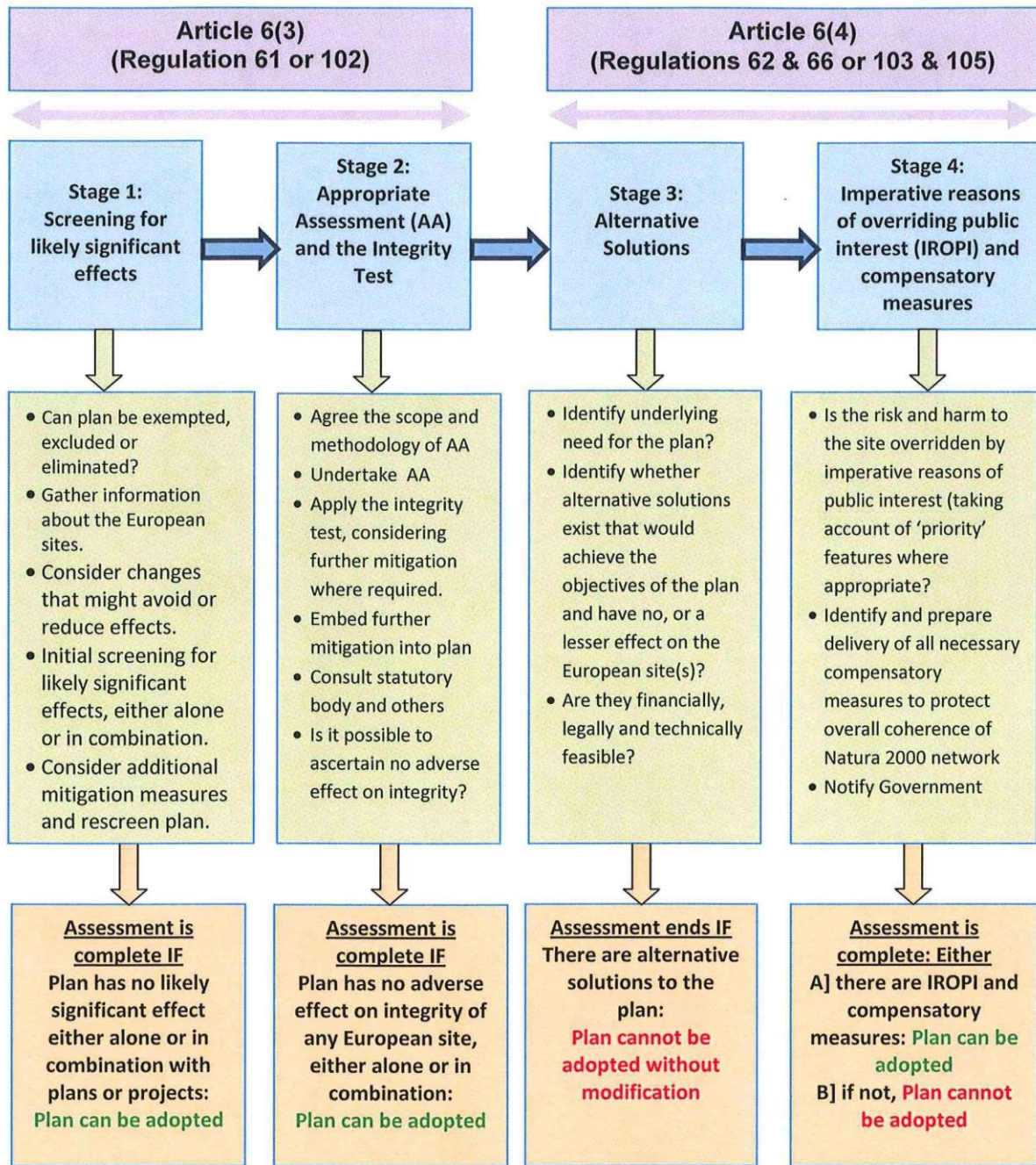
## **12. Appendix 1 - The Habitats Regulations Assessment Process**

- 12.1 The designation, protection and restoration of European wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2010, as amended, which are commonly referred to as the ‘Habitats Regulations.’ Recent amendments to the Habitats Regulations were made in 2012. The recent amendments do not substantially affect the principles of European site assessment as defined by the 2010 Regulations, the focus of this report or the previous Habitats Regulations Assessment (HRA) work undertaken for Breckland, upon which some of this HRA relies.
- 12.2 The Habitats Regulations are in place to transpose European legislation set out within the Habitats Directive (Council Directive 92/43/EEC), which affords protection to plants, animals and habitats that are rare or vulnerable in a European context, and the Birds Directive (Council Directive 2009/147/EC), which originally came into force in 1979, and which protects rare and vulnerable birds and their habitats. These key pieces of European legislation seek to protect, conserve and restore habitats and species that are of utmost conservation importance and concern across Europe. Although the Habitats Regulations transpose the European legislation into domestic legislation, the European legislation still directly applies, and in some instances it is better to look to the parent Directives to clarify particular duties and re-affirm the overarching purpose of the legislation.
- 12.3 European sites include Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) classified under the Birds Directive. The suite of European sites includes those in the marine environment as well as terrestrial, freshwater and coastal sites. European sites have the benefit of the highest level of legislative protection for biodiversity. Member states have specific duties in terms of avoiding deterioration of habitats and species for which sites are designated or classified, and stringent tests have to be met before plans and projects can be permitted, with a precautionary approach embedded in the legislation, i.e. it is necessary to demonstrate that impacts will not occur, rather than they will. The overarching objective is to maintain sites and their interest features in an ecologically robust and viable state, able to sustain and thrive into the long term, with adequate resilience against natural influences. Where sites are not achieving their potential, the focus should be on restoration.
- 12.4 The UK is also a contracting party to the Ramsar Convention, which is a global convention to protect wetlands of international importance, especially those wetlands utilised as waterfowl habitat. In order to ensure compliance with the requirements of the Convention, the UK Government expects all competent authorities to treat listed Ramsar sites as if they are part of the suite of designated European sites, as a matter of government policy, as set out in Section 118 of the National Planning Policy Framework. Most Ramsar sites are also a SPA or SAC, but the Ramsar features and boundary lines may vary from those for which the site is designated as a SPA or SAC.

- 12.5 It should be noted that in addition to Ramsar sites, the National Planning Policy Framework also requires the legislation to be applied to potential SPAs and possible SACs, and areas identified or required for compensatory measures where previous plans or projects have not been able to rule out adverse effects on site integrity, yet their implementation needs meet the exceptional tests of Regulation 62 of the Habitats Regulations, as described below.
- 12.6 The step by step process of HRA is summarised in the diagram below. Within the Habitats Regulations, local planning authorities, as public bodies, are given specific duties as ‘competent authorities’ with regard to the protection of sites designated or classified for their species and habitats of European importance. Competent authorities are any public body individual holding public office with a statutory remit and function, and the requirements of the legislation apply where the competent authority is undertaking or implementing a plan or project, or authorising others to do so. Regulation 61 of the Habitats Regulations sets out the HRA process for plans and projects, which includes development proposals for which planning permission is sought. Additionally Regulation 102 specifically sets out the process for assessing emerging land use plans.
- 12.7 The step by step approach to HRA is the process by which a competent authority considers any potential impacts on European sites that may arise from a plan or project that they are either undertaking themselves, or permitting an applicant to undertake. The step by step process of assessment can be broken down into the following stages, which should be undertaken in sequence:
- Check that the plan or project is not directly connected with or necessary for the management of the European site
  - Check whether the plan or project is likely to have a significant effect on any European site, from the plan or project alone
  - Check whether the plan or project is likely to have a significant effect on any European site, from the plan or project in-combination with other plans or projects
  - Carry out an ‘appropriate assessment’
  - Ascertain whether an adverse effect on site integrity can be ruled out
- 12.8 Throughout all stages, there is a continual consideration of the options available to avoid and mitigate any identified potential impacts. For projects, the project proposer may identify potential issues and incorporate particular avoidance measures to the project, which then enables the competent authority to rule out the likelihood of significant effects. A competent authority may however consider that there is a need to undertake further levels of evidence gathering and assessment in order to have certainty, and this is the appropriate assessment stage. At this point the competent authority may identify the need to add to or modify the project in order to adequately protect the European site, and these mitigation measures may be added through the imposition of particular restrictions and conditions.

- 12.9 For plans, the stages of HRA are often quite fluid, with the plan normally being prepared by the competent authority itself. This gives the competent authority the opportunity to repeatedly explore options to prevent impacts, refine the plan and rescreen it to demonstrate that all potential risks to European sites have been successfully dealt with.
- 12.10 When preparing a plan, a competent authority may therefore go through a continued assessment as the plan develops, enabling the assessment to inform the development of the plan. For example, a competent authority may choose to pursue an amended or different option where impacts can be avoided, rather than continue to assess an option that has the potential to significantly affect European site interest features.
- 12.11 After completing an assessment a competent authority should only approve a project or give effect to a plan where it can be ascertained that there will not be an adverse effect on the integrity of the European site(s) in question. In order to reach this conclusion, the competent authority may have made changes to the plan, or modified the project with restrictions or conditions, in light of their Appropriate Assessment findings.
- 12.12 Where adverse effects cannot be ruled out, there are further exceptional tests set out in Regulation 62 for plans and projects and in Regulation 103 specifically for land use plans. Exceptionally, a plan or project could be taken forward for imperative reasons of overriding public interest where adverse effects cannot be ruled out and there are no alternative solutions. It should be noted that meeting these tests is a rare occurrence and ordinarily, competent authorities seek to ensure that a plan or project is fully mitigated for, or it does not proceed.
- 12.13 In such circumstances where a competent authority considers that a plan or project should proceed under Regulations 62 or 103, they must notify the relevant Secretary of State. Normally, planning decisions and competent authority duties are then transferred, becoming the responsibility of the Secretary of State, unless on considering the information, the planning authority is directed by the Secretary of State to make their own decision on the plan or project at the local level. The decision maker, whether the Secretary of State or the planning authority, should give full consideration to any proposed 'overriding reasons' for which a plan or project should proceed despite being unable to rule out adverse effects on European site interest features, and ensure that those reasons are in the public interest and are such that they override the potential harm. The decision maker will also need to secure any necessary compensatory measures, to ensure the continued overall coherence of the European site network if such a plan or project is allowed to proceed.

HRA of Breckland Local Plan – Preferred Site Options and Settlement Boundaries



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Figure 2: Outline of the assessment of plans under the Habitat Regulations

### **13. Appendix 2 – European Site Conservation Objectives**

- 13.1 As required by the Directives, ‘Conservation Objectives’ have been established by Natural England, which should define the required ecologically robust state for each European site interest feature. All sites should be meeting their conservation objectives. When being fully met, each site will be adequately contributing to the overall favourable conservation status of the species or habitat interest feature across its natural range. Where conservation objectives are not being met at a site level, and the interest feature is therefore not contributing to overall favourable conservation status of the species or habitat, plans should be in place for adequate restoration.
- 13.2 Natural England has embarked on a project to renew all European site Conservation Objectives, in order to ensure that they are up to date, comprehensive and easier for developers and consultants to use to inform project level Habitats Regulations Assessments in a consistent way. In 2012, Natural England issued now a set of generic European site Conservation Objectives, which should be applied to each interest feature of each European site. These generic objectives are the first stage in the project to renew conservation objectives, and it is anticipated that the second stage, which is to provide more detailed and site specific information for each site to support the generic objectives, will follow shortly.
- 13.3 The new list of generic Conservation Objectives for each European site include an overarching objective, followed by a list of attributes that are essential for the achievement of the overarching objective. Whilst the generic objectives currently issued are standardised, they are to be applied to each interest feature of each European site, and the application and achievement of those objectives will therefore be site specific and dependant on the nature and characteristics of the site. The second stage, provision of the more supplementary information to underpin these generic objectives, will provide much more site specific information, and this detail will play a fundamental role in informing HRAs, and importantly will give greater clarity to what might constitute an adverse effect on a site interest feature.
- 13.4 In the interim, Natural England advises that Habitats Regulations Assessments should use the generic objectives and apply them to the site specific situation. This should be supported by comprehensive and up to date background information relating to the site.
- 13.5 For SPAs the overarching objective is to:
- 13.6 ‘Avoid the deterioration of the habitats of qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.’
- 13.7 This is achieved by, subject to natural change, maintaining and restoring:
- The extent and distribution of the habitats of the qualifying features.

- The structure and function of the habitats of the qualifying features.
- The supporting processes on which the habitats of the qualifying features rely.
- The populations of the qualifying features.
- The distribution of the qualifying features within the site.

13.8 For SACs the overarching objective is to:

*‘Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.’*

13.9 This is achieved by, subject to natural change, maintaining and restoring:

- The extent and distribution of the qualifying natural habitats and habitats of qualifying species.
- The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species.
- The supporting processes on which qualifying natural habitats and habitats of qualifying species rely.
- The populations of qualifying species.
- The distribution of qualifying species within the site.

13.10 Conservation objectives inform any HRA of a plan or project, by identifying what the interest features for the site should be achieving, and what impacts may be significant for the site in terms of undermining the site’s ability to meet its conservation objectives.



## 14. Appendix 3 - Conservation Interest of European Sites

14.1 The following European sites were screened in the original Habitats Regulations Assessment Work for the Breckland Local Development Framework as those within a 20km radius that could potentially be affected by the implementation of policies contained within. These sites remain a potential concern for the emerging Local Plan and should be considered in the HRA.

- The Broads SAC
- Broadland SPA/Ramsar
- Breckland SPA/SAC
- North Norfolk Coast SPA/Ramsar/SAC
- The Wash SPA/Ramsar
- Norfolk Valley Fens SAC
- The Wash & North Norfolk Coast SAC
- Ouse Washes SAC/SPA/Ramsar
- River Wensum SAC
- Waveney and Little Ouse Valley Fens SAC
- Redgrave and South Lopham Fen Ramsar

14.2 The interest features for each European site designation are listed below in Table 4. The overarching Conservation Objectives set out in Appendix 2 should be applied to each of these interest features. As noted in Appendix 2, detailed supplementary information for each interest feature will be developed as part of the Conservation Objectives in due course. Further detailed description of each interest feature in terms of its characteristics within the individual European site is provided on the JNCC website. Four figure reference numbers are the EU reference numbers given to each habitat and species listed within the Annexes of the European Directives.

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**Table 4: Reasons for designation of European sites where there may be potential impacts arising from the new Local Plan**

The Broads SAC	<p>3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.</p> <p>3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition- type vegetation</p> <p>7210 Calcareous fens with Cladium mariscus and species of the Caricion davallianae *</p> <p>91E0 Alluvial Forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion</p> <p>6410 Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) – <i>qualifying feature but not a primary reason for site selection</i></p> <p>1355 Otter Lutra lutra - <i>qualifying feature but not a primary reason for site selection</i></p>
Broadland SPA	
Broadland Ramsar	<p><b>Data sheet does not break down into criterion, provides a general description to include:</b></p> <p>Extensive peatlands, shallow lakes, large range of wetland types, wet grazing marsh, outstanding assemblage of breeding and wintering wetland birds and rare plants and</p>
Breckland SAC	<p>2330 Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands</p> <p>3150 Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation</p> <p>6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-</i></p> <p>91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) * - <i>qualifying feature but not a primary reason for site selection</i></p> <p>1166 Great crested newt <i>Triturus cristatus</i> - <i>qualifying feature but not a primary reason for</i></p>
Breckland SPA	<p><b>Article 4.1 qualification of breeding populations of:</b></p> <p>A133 <i>Burhinus oedicephalus</i></p> <p>A224 <i>Caprimulgus europaeus</i></p> <p>A246 <i>Lullula arborea</i></p>

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The Wash and North Norfolk Coast SAC	<p>1110 Sandbanks which are slightly covered by sea water all the time</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1160 Large shallow inlets and bays</p> <p>1170 Reefs</p> <p>1310 <i>Salicornia</i> and other annuals colonizing mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)</p> <p>1420 Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)</p> <p>1150 Coastal lagoons * - qualifying feature but not a primary reason for site selection</p> <p>1365 Harbour seal <i>Phoca vitulina</i></p> <p>1355 Otter <i>Lutra lutra</i> - qualifying feature but not a primary reason for site selection</p>
North Norfolk Coast SPA	
North Norfolk Coast SAC	
North Norfolk Coast Ramsar	<p><b>Data sheet does not break down into criterion, provides a general description to include:</b></p> <p>40km stretch of coastline including shingle beaches, sand dunes, saltmarsh, intertidal mud and sand flats, brackish lagoons, reedbeds and grazing marshes. Internationally important numbers of breeding and overwintering bird species. Several important botanical sites and breeding localities for natterjack toad <i>Bufo calamita</i>.</p>

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The Wash SPA	<p><b>Article 4.1 qualification of breeding populations of:</b></p> <p><i>Cygnus columbianus bewickii , Anser brachyrhynchus , Branta bernicla bernicla , Tadorna tadorna , Anas penelope , Anas strepera , Anas acuta , Melanitta nigra , Bucephala clangula , Haematopus ostralegus , Pluvialis squatarola , Calidris canutus , Calidris alba , Calidris alpina alpina , Limosa limosa islandica , Limosa lapponica , Numenius arquata , Tringa totanus ,</i></p>
The Wash Ramsar	<p><b>Data sheet does not break down into criterion, provides a general description to include:</b> Largest estuarine system in Britain, extensive saltmarshes, intertidal banks of sand and mud,</p> <p>Overwintering and migratory wildfowl and wading birds, commercial fishery for shellfish, important nursery for flatfish, north sea’s largest breeding population of common seal <i>Phoca vitulina</i> and some grey seal <i>Halichoerus grypus</i>. The sublittoral area supports marine communities including colonies of the reef-building polychaete worm <i>Saballaria spinulosa</i>.</p>
River Wensum SAC	<p>3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-</i></p> <p>1092 white-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i></p> <p>1016 Desmoulin`s whorl snail <i>Vertigo moulinsiana</i> - qualifying feature but not a primary</p> <p>1096 Brook lamprey <i>Lampetra planeri</i> - qualifying feature but not a primary reason for site</p> <p>1163 Bullhead <i>Cottus gobio</i> - qualifying feature but not a primary reason for site selection</p>
Ouse Washes SAC	<p>1149 Spined loach <i>Cobitis taenia</i></p>

<p>Ouse Washes SPA</p>	<p><b>Article 4.1 qualification of overwintering populations of:</b></p> <p>A082 <i>Circus cyaneus</i> A037 <i>Cygnus columbianus bewickii</i> A038 <i>Cygnus Cygnus</i> A151 <i>Philomachus pugnax</i></p> <p><b>Article 4.2 qualification (migratory species - breeding):</b></p> <p>A056 <i>Anas clypeata</i> A053 <i>Anas platyrhynchos</i> A055 <i>Anas querquedula</i> A051 <i>Anas strepera</i> A156a <i>Limosa limosa limosa</i></p> <p><b>Article 4.2 qualification (migratory species - overwintering):</b></p> <p>A054 <i>Anas acuta</i> A056 <i>Anas clypeata</i> A052 <i>Anas crecca</i> A050 <i>Anas penelope</i> A051 <i>Anas strepera</i> A059 <i>Aythya ferina</i> A061 <i>Aythya fuligula</i> A036 <i>Cygnus olor</i> A125 <i>Fulica atra</i> A017 <i>Phalacrocorax carbo</i></p> <p><b>Article 4.2 qualification (species assemblage):</b> During the breeding season the area regularly supports: <i>Gallinago gallinago</i> , <i>Gallinula chloropus</i> , <i>Haematopus ostralegus</i> , <i>Tadorna tadorna</i> , <i>Tringa totanus</i> , <i>Vanellus vanellus</i> .</p> <p>Over winter the area regularly supports: <i>Phalacrocorax carbo</i> , <i>Cygnus columbianus bewickii</i> , <i>Cygnus cygnus</i> , <i>Anas penelope</i> , <i>Anas strepera</i> , <i>Anas crecca</i> , <i>Anas acuta</i> , <i>Anas clypeata</i> , <i>Aythya ferina</i> , <i>Aythya fuligula</i> , <i>Fulica atra</i> , <i>Philomachus pugnax</i> .</p> <p>64428 waterfowl (5 year peak mean 01/04/1998)</p> <p>Including:</p> <p><i>Phalacrocorax carbo</i> , <i>Cygnus columbianus bewickii</i> , <i>Cygnus cygnus</i> , <i>Anas penelope</i> , <i>Anas strepera</i> , <i>Anas crecca</i> , <i>Anas acuta</i> , <i>Anas clypeata</i> , <i>Aythya ferina</i> , <i>Aythya fuligula</i> , <i>Fulica atra</i> , <i>Philomachus pugnax</i> .</p>
<p>Ouse Washes Ramsar</p>	<p>Criterion 1a – representative example of a natural or near-natural wetland characteristic of its biogeographic region, one of the most extensive areas of seasonally flooding washland of its type in Britain.</p> <p>Criterion 2a – appreciable numbers of nationally rare plants and animals</p> <p>Criterion 5 - internationally important waterfowl assemblage</p> <p>Criterion 6 – internationally important overwintering bird populations</p>
<p>Waveney and Little Ouse Fens SAC</p>	<p>6410 Molinia meadows on calcareous, peaty or clayet-silt-lade soils <i>Molinion caeruleae</i> 7210 Calcareous fens with <i>cladium mariscus</i> and species of the <i>caricion davallianae</i> * 1016 Desmoulin`s whorl snail <i>Vertigo moulinsiana</i></p>

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Site	Reason for designation, * indicate a priority SAC feature
Redgrave and South Lopham Fen Ramsar	<p>Criterion 1 – extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation</p> <p>Criterion 2 – Rare and scarce invertebrates, including fen raft spider <i>Dolomedes plantarius</i></p> <p>Criterion 3 - Rare and scarce invertebrates, including fen raft spider <i>Dolomedes plantarius</i> and site diversity, due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.</p>

**15. Appendix 4 - Screening for Likely Significant Effects**

The following table documents the screening for likely significant effects undertaken on all parts of the Preferred Site Allocations and Settlement Boundaries document, and informs what modifications are required to the plan to avoid significant effects, and what aspects of the plan pose risks to European sites that need further assessment at appropriate assessment stage (AA).

**Table 5: LSE screening at Preferred Options stage**

<b>1. Introduction</b>					
					None
<b>2. Housing Distribution</b>					
					Consideration of distribution of development in relation to proximity of European sites, and evidence available on visitor use.

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Housing allocation targets	A table identifying the new allocation figure for new homes within each settlement		All	Proceed to AA	Consideration of distribution of development in relation to proximity of European sites, and evidence available on visitor use.
Housing delivery phasing	Explanation of current delivery rate of new homes, and what is needed for the plan period		All		None
<b>3. Preferred sites</b>					
Attleborough	Sets out details of allocations and quantum of development; with no further development apart from the SUE				Assessment findings from Preferred Directions relevant, but no additional allocations proposed and therefore no need for AA
Thetford	Sets out details of allocations and quantum of development; with no further development apart from the SUE				Assessment findings from Preferred Directions relevant, but no additional allocations proposed and therefore no need for AA
Dereham	Sets out details of allocations and quantum of development		Norfolk Valley Fens SAC, Breckland SPA/SAC, River Wensum SAC	Proceed to AA	
Swaffham	Sets out details of allocations and		Breckland	Proceed to AA	Detailed checks required



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	quantum of development		SPA/SAC		relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues and roads/air quality issues
Watton	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	
Ashill	Sets out details of allocations and quantum of development	LSE	Breckland SPA/SAC	Proceed to AA	
Banham	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC, River Wensum SAC	Proceed to AA	Detailed checks required relating to urban effects (including disturbance), water issues and roads/air quality issues
Bawdeswell	Sets out details of allocations and quantum of development	LSE	River Wensum SAC	Proceed to AA	Detailed checks required relating to water issues and roads/air quality issues
Garboldisham	Sets out details of allocations and quantum of development		Breckland SPA/SAC; Waveney & Little Ouse Valley Fens	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues

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			SAC		and roads/air quality issues
Great Ellingham	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues and roads/air quality issues
Harling	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues and roads/air quality issues
Hockering	Sets out details of allocations and quantum of development	LSE	River Wensum SAC	Proceed to AA	Detailed checks required relating to water issues and roads/air quality issues
Kenninghall	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues and roads/air quality issues
Litcham	Sets out details of allocations and quantum of development	No LSE			Overall quantum of development and traffic issues possibly relevant, but Litcham well away from all European sites
Mattishall	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC	Proceed to AA	Detailed checks required urban effects, water issues and roads/air quality issues
Narborough	Sets out details of allocations and quantum of development		Norfolk Valley Fens SAC,	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings,

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			Breckland SPA/SAC		urban effects (including disturbance), water issues and roads/air quality issues
North Elmham	Sets out details of allocations and quantum of development	LSE	River Wensum SAC	Proceed to AA	Detailed checks required relating to water issues and roads/air quality issues
Necton	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues and roads/air quality issues
Old Buckenham	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC	Proceed to AA	Detailed checks required relating to urban effects (including disturbance), water issues and roads/air quality issues
Shipdham	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	Detailed checks required relating to urban effects (including disturbance), water issues and roads/air quality issues
Sporle	Sets out details of allocations and quantum of development	LSE	Norfolk Valley Fens SAC, Breckland SPA/SAC	Proceed to AA	Detailed checks required relating to Stone Curlews and presence of buildings, urban effects (including disturbance), water issues and roads/air quality issues
Swanton Morley	Sets out details of allocations and quantum of development	LSE	River Wensum SAC	Proceed to AA	Detailed checks required relating to water issues and roads/air quality issues
Weeting	Sets out details of allocations and quantum of development. No allocations made due to sensitivity				

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	of location for Stone Curlews.				
Yaxham	Sets out details of allocations and quantum of development		Norfolk Valley Fens SAC	Proceed to AA	Detailed checks required relating to urban effects, water issues and roads/air quality issues
<b>Employment Sites</b>					
					While reasonably distant from European sites, checks needed in relation to in-combination effects on air quality
<b>Review of Rural Settlement Boundaries</b>					
New Residential and Employment Opportunities outside of settlement boundaries	Development outside of settlement boundaries allowed where set criteria are satisfied		Breckland SPA/SAC		

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