FOOTPRINT ECOLOGY

Breckland Local Plan Habitats Regulations Assessment at Main Modifications Stage

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Summary

This report is the Habitats Regulations Assessment (HRA) of the new Breckland Local Plan, prepared by Breckland Council. This report is an assessment of the plan after Examination in Public, at its 'Main Modifications' stage, i.e. with these modifications in place, the plan is considered ready for adoption. The plan making process to date has included an Issues and Options consultation, Preferred Directions consultation, a Preferred Site Options and Settlement Boundaries consultation and a Publication version of the plan for Examination.

HRA work has progressed alongside these plan making stages. At each stage, where new evidence or information has become available, it has been considered as part of the HRA. Of particular relevance is the availability of more up to date Stone Curlew survey data, which enabled a re-assessment and update of the Stone Curlew buffer zones as part of the Preferred Site Options and Settlement Boundaries HRA. The general thrust of policy direction and the site allocations have therefore been the subject of HRA, at numerous stages, and at this final Main Modifications stage, this HRA report provides a full record of compliance and a final check for the incorporation of all recommendations made to date.

It is important to note that the mitigation measures to protect the European sites are those that have evolved from early and extensive evidence based work during the preparation of the Core Strategy. The buffer zones for Stone Curlew are established and understood, and continue to be a key mitigation measure (refined in light of the new data). Other mitigation measures are less well established, and this HRA therefore seeks to steer progression on those measures and ensure they are appropriately embedded within the Local Plan.

Measures to strengthen the plan have been recommended in the likely significant effects screening table, under each appropriate assessment theme, and in text revisions for environmental policies ENV02 and ENV 03 (at Publication stage and again during Examination). The required measures that have now enabled a conclusion of no adverse effects on site integrity are comprehensive, and Footprint Ecology has worked alongside the Council to develop measures within the plan. All recommendations made within this HRA report have been fully incorporated into the Local Plan, and a check at Main Modifications stage concludes that there are no further concerns, enabling a conclusion of compliance with the requirements of the legislation.

Key impact and mitigation themes considered throughout the preparation of the HRA are:

Impacts of built development on Stone Curlew

- Mitigation measures now well established and incorporated into the Local Plan through the Stone Curlew Buffer zones, updated in light of new data.

Recreation disturbance to SPA birds

- A measure not yet fully progressed from the Core Strategy HRA. Securing adequate recreation provision at new development, and working with partners to appropriately manage recreation, particularly at accessible forest sites. Commitments are now included in ENV 3.

Urbanisation effects on SAC and SPA habitats

- A measure not yet fully progressed from the Core Strategy HRA. Framework now committed to within Policy ENV 3 for working with relevant partners to protect and restore the most urban heath sites, with a requirement for developers to contribute to measures within the framework where development may lead to increased recreation use of urban heaths.

Additional measures in sensitive areas of focussed growth (Thetford, Swaffham, Mundford).

- Informed by recent additional evidence gathering in conjunction with Norfolk LPAs. Policy ENV 3 now includes a requirement for additional focussed measures at Thetford, Swaffham and Mundford.

Air quality and road improvements

- Measures remain consistent with Core Strategy HRA – no road improvements promoted within 200m of Breckland SAC, and within 1500m of Breckland SPA. Additional requirements for project level HRA for road schemes. Air quality protection measures and monitoring needs should be reviewed in order ensure adequate protective measures to prevent deterioration.

Water supply, water quality and waste water discharge, flood risk

- The WCS update has triggered the need for additional policy strengthening for growth at Dereham and the Attleborough SUE. The Flood Risk Assessment update includes measures now incorporated into policy.

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1. Introduction

1.1 This report is the Habitats Regulations Assessment (HRA) of the new Breckland Local Plan, currently being finalised by Breckland Council. This report is an assessment of the plan at its 'Main Modifications' stage, i.e. with these modifications in place, the plan is considered ready for adoption. This HRA report is now finalised, having checked that all recommendations are incorporated. This HRA therefore demonstrates soundness in terms of compliance with the Conservation of Habitats and Species Regulations 2017, normally referred to as the 'Habitats Regulations'.

1.2 HRA is a systematic assessment, undertaken in order to check 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.

1.3 At the present time, spatial planning and development management in the Breckland District is led by the Breckland Local Development Framework, which is a suite of 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. These documents initially began to be prepared in 2007, and HRA work commenced shortly after, when it was recognised that new growth had the potential to affect European wildlife site interest. Breckland Council, with advice from Natural England, understood that in preparing spatial planning documents, there is a need to properly assess potential impacts on European sites in accordance with the duties placed upon the Council by the Habitats Regulations.

1.4 It is Government policy that local planning documents are continually reviewed in order to remain up to date and informed by current evidence on local economic, social and environmental needs, and national legislation and planning policy. In light of this, and recognising the need to revisit key issues such as housing targets since the cessation of a region led approach to planning through Regional Spatial Strategies, Breckland Council has prepared a new Local Plan, which upon adoption will replace the suite of documents within the current Breckland Local Development Framework. The new plan has proceeded through the various stages of plan preparation and public consultation, including an Issues and Options consultation, Preferred Directions consultation, a Preferred Site Options and Settlement Boundaries consultation and a Publication version of the plan for Examination. The Preferred Site Options and Settlement Boundaries consultation was in recognition of the need to specifically consider the right sites to meet housing need over the Local Plan period, in light of the longer timescales envisaged for bringing the full complement of housing forward in the Thetford and Attleborough Sustainable Urban Extensions Each has been the subject of HRA, and this report now updates the previous HRA work. To provide a final HRA for the Breckland Local Plan.

1.5 The new Breckland Local Plan will replace all documents within the Local Development Framework, which were also the subject of HRA. 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 been effective, whether they are understood and followed correctly, 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 HRA and evidence gathering work and considered what evidence should inform the HRA of the new Local Plan. That initial report should be read in conjunction with this HRA report as it is the precursor to the HRA reports at each stage of the emerging new Local Plan, and provides a greater level of detail on the evidence that underpins this HRA.

1.6 This report provides HRA at the Main Modifications, and builds upon the previous HRA reports at earlier plan making stages. This report has been produced following Examination in Public, and Footprint Ecology attended the Environmental Hearing Sessions to assist the Examination process in relation to policies relating to European sites. This HRA report assesses the Main Modifications arising from Examination, which once included within the plan will form the final Local Plan that Breckland Council consider to be sound and ready for adoption. Footprint Ecology has worked with planning officers over time, during the preparation of this HRA report, to embed mitigation measures within the plan and in particular to strengthen the Environment chapter and associated policies.

1.7 This is a final update to the HRA, being made when the new Local Plan is considered ready for adoption after Examination. This final update has included a check of all proposed modifications in order to confirm that the new Breckland Local Plan fully accords with the requirements of the Habitats Regulations, before the Local Plan is given effect.

Habitats Regulations Assessment process

1.8 A HRA 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 wildlife sites designated to protect important features of the natural environment.

1.9 The relevant European legislation is the Habitats Directive 1992[1] and the Wild Birds Directive 2009[2], which are transposed into domestic legislation through the Conservation of

[1] Council Directive 92/43/EEC
[2] Council Directive 2009/147/EC

Habitats and Species Regulations 2017. As noted above, these Regulations are normally referred to as the 'Habitats Regulations.'

1.10 This legislation sets out a clear step by step approach for decision makers considering any plan or project. In England, the duties within the legislation are also supplemented by national planning policy through the National Planning Policy Framework (NPPF). In addition to sites classified or designated in accordance with the European Directives, the NPPF also refers to Ramsar sites, which are listed in response to 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.

1.11 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.

1.12 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, 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.

1.13 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.

1.14 As explained within Appendix 2, the conservation objectives for European sites are prepared for Natural England, and consist of two levels; overarching generic conservation objectives and site specific supplementary advice. The latter is currently not in place for all European sites, and at the time of preparing this HRA report, was not finalised for Breckland SPA and SAC, which is the most pertinent site for this HRA. This HRA therefore has regard for the locally available information that assists with the consideration of the overarching objectives, and what may impede their delivery.

1.15 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 now at Main Modifications stage. Alongside the HRA reports the Council has used previous consultation responses provided by consultees at the 'Issues and Options' stage and Preferred Directions stage, with a further consultation on Preferred Site Options and Settlement Boundaries, And then the submissions to Examination in Public, to inform the development of suitable policy measures to protect European sites and ensure that their restoration and enhancement is not affected by the Local Plan and its implementation.

1.16 At each stage of plan development, policies are presented in an increasingly refined state over time, with intended approach to policy wording is outlined and consultation informing further refinement of policy wording. This therefore enables HRAs to make meaningful recommendations that can be acted upon in order to strengthen the protection afforded to European sites through the forthcoming plan, prior to its Examination.

1.17 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, restoring and enhancing European sites. This HRA 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 the HRA advises how that can be best achieved. Where there are identified risks to European sites within the plan and 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.

1.18 As described in Appendix 1, the step by step process of HRA, and the updating of HRA reports at each plan making stage of an emerging plan, allows for continual refinement of the plan to ensure its compliance with the Habitats Regulations. At the various stages of plan development, the HRA checks the plan in its entirety each time, and will advise where emerging elements of the plan may pose a risk to European sites and therefore require further evidence gathering and/or modifications to the plan.

Policy progression through plan preparation

1.19 The new Local Plan has progressed through stages of plan preparation that have enabled it to be informed by public consultation, with input from statutory consultees and use of an extensive evidence base. Alongside this, plan assessments, including HRA, have informed policy evolution to make sure that the new Breckland Local Plan is compliant with the requirements of legislation and planning policy.

1.20 The evolution of policy since the Preferred Directions stage is particularly pertinent to this HRA, as explained below.

Evolution of policy from the Preferred Directions

1.21 The Preferred Directions document was prepared after initial consultation on Issues and Options for the local plan. The Preferred Directions document set out an 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. After preparation and consultation on the Preferred Directions document it was recognised that the SUEs for Thetford and Attleborough would 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 will not be able to deliver their full complement of housing before 2036.

1.22 Breckland Council therefore had to seek alternative means of delivering additional housing to meet the projected housing needs during the plan period. An additional document; the Preferred Site Options and Settlement Boundaries document was subsequently prepared to identify 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 proposed that 5% of the housing need should be provided in rural areas, which was a change to the Preferred Directions document that did not include rural area development.

1.23 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 necessitated a revised distribution of housing, with additional housing numbers 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 was added as part of the Preferred Site Options and Settlement Boundaries document.

1.24 The Preferred Site Options and Settlement Boundaries document was consulted upon as an additional step at Preferred Directions, informed by new evidence. It set out the proposed preferred site options and settlement boundaries that would form part of the new local plan, along with additional consideration of the approach to development in rural areas. The consultation documentation advised that the Preferred Directions consultation and the Preferred Site Options and Settlement Boundaries consultation would together enable the plan to be developed further and amalgamated into the new Breckland Local Plan Part 1. The new local plan was then prepared for Examination by the Planning Inspectorate for Examination.

Breckland Local Plan at draft Submission and Publication stage

1.25 This HRA report previously assessed the draft Submission stage plan in full, including a complete re-check of all elements of the plan, which refer to general overarching policies, housing, transport, environment, the economy, communities and infrastructure.

1.26 The avoidance and mitigation measures built into the plan drew on the wealth of previous HRA work and underpinning evidence. The HRA report at submission stage checked previous recommendations and current evidence to highlight outstanding matters requiring modifications to the plan, and checked the robustness of existing mitigation measures to determine whether still fit for purpose, in light of the new proposals, quantum and locations of development in the plan at this stage. Modifications recommended were set out in the table at Appendix 4 and within the subsequent Appropriate Assessment sections of this report.

1.27 At Publication stage, a check was made to ensure that all recommendations for mitigation measures, set out in both the table at Appendix 4 and within the subsequent Appropriate Assessment sections of this report were now fully incorporated within the plan. An additional column of the table at Appendix 4 was added to record the check made. The Appropriate Assessment sections were been updated to reflect the checks made and the conclusions drawn for this HRA at Section 8 were modified.

Breckland Local Plan at Examination in Public and Main Modifications

1.28 Footprint Ecology supported the Council at Examination in Public for the Hearing Sessions where environmental policies relating to European sites were discussed. Following the Inspector's recommendations, final modifications to policies ENV 2 and ENV 3 were drawn up. These are discussed in the updated appropriate assessment sections.

1.29 Modifications to policies protecting European sites are proposed in light of Examination. A screen of the proposed Main Modifications enables a conclusion that all modifications are unlikely to yield significant effects. A no likely significant effects conclusion is drawn for the Main Modifications, informed by all previous appropriate assessment work. A recent European Court Judgment, as discussed in Section 3, also informed changes to this HRA in terms of adding additional explanatory text to confirm compliance with caselaw.

European sites

1.30 There are a range of European sites within or near the Breckland District that have been checked at each plan making stage, for their potential to be affected by new growth that will be promoted by the new Breckland Local Plan Part 1. The sites considered within this report are drawn from the original HRA work on the Breckland Core Strategy, 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

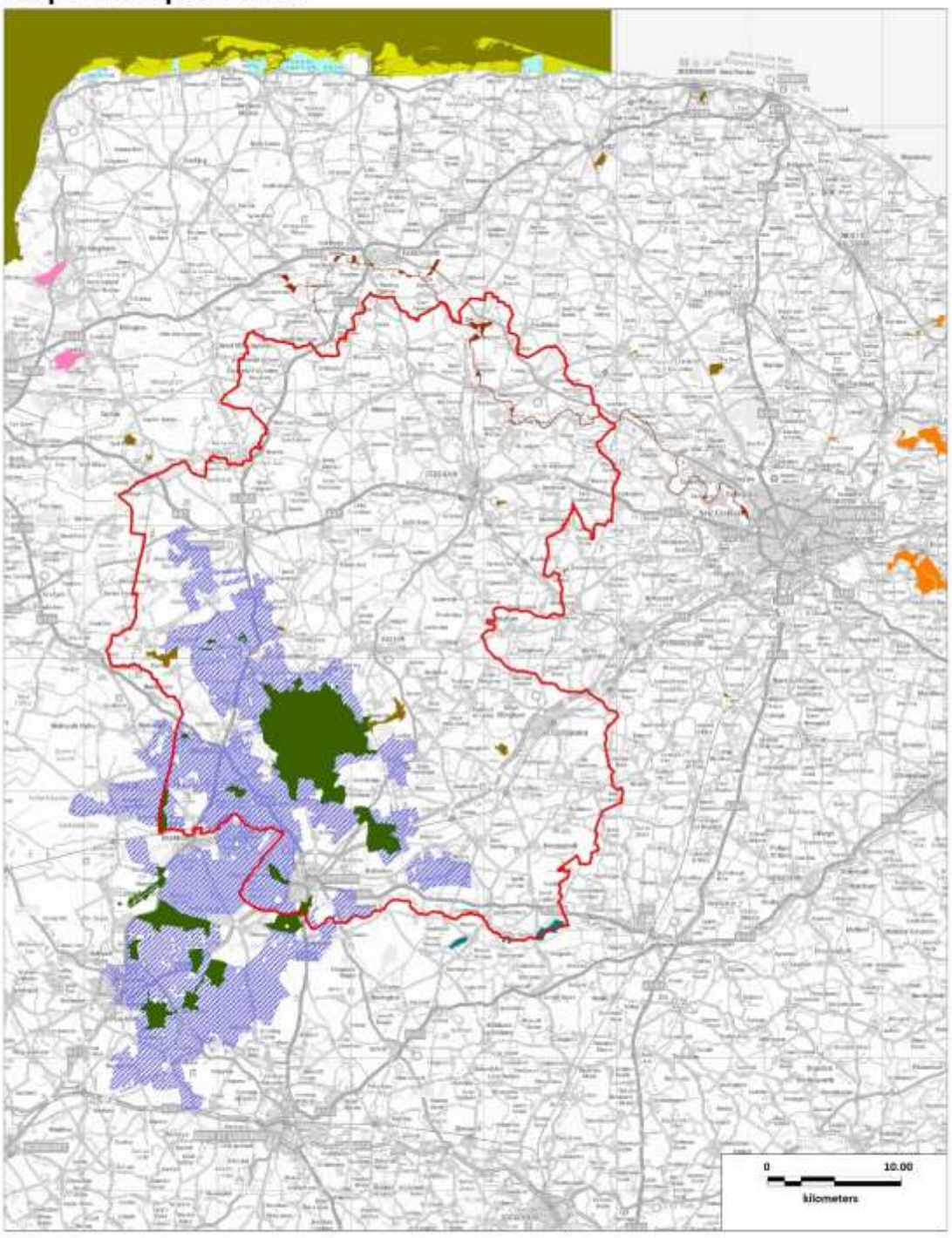
initial list. A few sites were then removed from that list because they were so far from the District and their interest/character meant there was no plausible mechanism by which impacts might occur. Sites are listed in Table 1 and the main sites are shown on Map 1.

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

SPA	SAC	Ramsar
Breckland	Breckland	Broadland
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	

1.31 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



2. Previous HRA work

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. This includes HRA work for the Local Development Framework, and the use of new evidence during the progression of the HRA for the new Local Plan up to its current Publication stage.

The Breckland Local Development Framework

2.2 Previous HRA work relating to the Local Development Framework was assessed as part of the background and review of evidence document prepared for the commencement of new HRA work alongside the new Breckland Local Plan. A summary is provided here and more comprehensive detail can be found in the background and review of evidence document.

2.3 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')

Evidence used for the HRA of the Local Development Framework

2.4 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 & Bertoncelj 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 2013a)

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 bird 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, 2003; Murison 2002; Underhill-Day 2005; Langston *et al.* 2007; Mallord *et al.* 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 *et al.* 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.

Potential effect	Summary of impact and related evidence
Recreation impacts to coastal habitats and species	Coastal habitats and some coastal species are vulnerable to impacts from recreation (Saunders *et al.* 2000; Lowen *et al.* 2008; Liley *et al.* 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 *et al.* 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 *et al.* 2008a).

Mitigation measures for the Local Development Framework

2.5 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 related 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).

2.6 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.

2.7 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

Status of Local Development Framework mitigation measures

2.8 The previous HRA work is critical to the assessment now being undertaken of the new Breckland Local Plan, as this HRA evolves from and builds on that previous work. The mitigation measures now currently being implemented through the Local Development Framework, have therefore been considered again as part of the HRA work for the new plan, in terms of their current status and progression in implementation.

2.9 The measures now being implemented for the Local Development Framework were reviewed in detail in the background and review of evidence report. The findings and recommendations of that report should be read alongside this HRA report, but are summarised here. The background and review of evidence report found that:

- The 1500 zonation for the protection of breeding Stone Curlew remains a strong, evidence backed and essential mitigation mechanism, but that there may be some 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 Breckland Council actively involved and contributing to this work, and that project needs to inform this Habitats Regulations Assessment.

HRA evidence informing the Breckland Local Plan Part 1

2.10 Since the HRAs were undertaken for the Local Development Framework, new evidence and resultant analysis is available to inform the HRA work for the new Breckland

Local Plan Part 1. This includes new up to data Stone Curlew data that became available in time to be included as part of the HRA at the Preferred Site Options and Settlement Boundaries document stage. New evidence has refined recommendations for mitigation measures.

2.11 This HRA now includes a check that previous recommendations made in the HRA reports for the Preferred Directions and Preferred Site Options and Settlement Boundaries documents have been incorporated, along with detailed changes to protective polices at Publication and then again within Main Modifications. These checks can be seen in both the re-screening of the plan for likely significant effects, and the appropriate assessment sections that follow from that screening.

Further assessment of the relationship between buildings and Stone Curlew Distribution

2.12 An important part of the original Core Strategy evidence base is the all of the research relating to the effect of build development on Stone Curlew. Following on from the Core Strategy evidence, Breckland Council commissioned Footprint Ecology to undertake an update to the original evidence by further assessing the relationship between buildings and Stone Curlew in the Brecks by using Stone Curlew nesting data and examining distribution in distance bands around buildings and in proximity to roads. The research is reported in Clarke & Liley 2013a.

2.13 The modelling and statistical analysis undertaken on the data revealed that there is still a strong justification for the use of the 1500m SPA buffer and secondary functionally linked land buffer. The negative relationship between Stone Curlew and buildings remains clear, but it is possible that some building types may not have an impact. Agricultural and commercial buildings do not appear to have a negative correlation, but this result requires caution as it was only possible to decisively identify these building types for a small sample size, with most buildings not being classified based on their specific use.

2.14 The effect of built development on Stone Curlew is more pronounced where there isn't any existing development. This leads to a conclusion that infill development, i.e. where the new development is completely eclipsed by existing development on all sides due to being located entirely within an existing settlement, may not further add to the effect.

Updated Stone Curlew data

2.15 More recent Stone Curlew data are now available, as a result of the new set of annual monitoring data collated annually by the RSPB having been made available. These data have been obtained and used to check the distribution outside (but functionally-linked) to the SPA and the most recent records are now added to those previously analysed for the Core Strategy and then the updated research described above.

2.16 The results of data checks and the modifications to the mitigation are set out in more detail within the appropriate assessment section of this HRA.

Updated GIS analysis of sites proposed for development

2.17 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 was 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 was then re-run for the updated set of sites as part of the Preferred Site Options and Settlement Boundaries HRA. The draft Submission version and Publication version of the plan took forward the selected sites from the previous plan iterations, informed by the previous HRA findings.

Norfolk wide evidence gathering on recreation impacts

2.18 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.

2.19 The report (Panter, Liley & Lowen 2017) includes 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, with particular increases predicted from growth within Thetford, Swaffham and Mundford.

The Breckland Infrastructure Delivery Plan

2.20 This plan is an evidence base document to support the delivery of the Local Plan, and its purpose is to identify the District's infrastructure needs for the plan period (up to 2036), in particular, those needs arising from new development;

- Set out the costs, funding sources and delivery mechanisms associated with these infrastructure needs;

- Improve lines of communication between key delivery agencies and the local planning authority, including identifying opportunities for integrated and more efficient service delivery and better use of assets;
- Provide evidence for the setting of a Community Infrastructure Levy (CIL), should the Council wish to implement such a funding mechanism in the future;
- Provide a 'live' document that will be used as a tool for helping to deliver infrastructure, regularly updated to reflect changing circumstances and needs and;
- Further strengthen relationships between the Council's Corporate Plan and the Local Plan objectives.

2.21 The Infrastructure Delivery Plan is a living document, and any updates should have regard for this HRA, including embedding some of the mitigation measures recommended in the appropriate assessment sections of this HRA report. Footprint Ecology can liaise with Breckland Council if required, to advise how this might be achieved as the Infrastructure Delivery Plan is progressed in the future.

3. Screening for likely significant effects

3.1 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.

Screening for likely significant effects table

3.2 Appendix 4 provides the screening table for the full plan at Publication stage, based on the July 2017 Publication version of the plan, and then a check of all Main Modifications, post Examination. Note that policy numbers have changed subsequent to earlier drafts of the plan. The screening table therefore provides reference to the new policy numbers, as provided to Footprint Ecology by the Council, in the Publication version. The screening table at Appendix 4 now records the screening undertaken on the plan at Main Modifications stage. A similar screening exercise has been undertaken on the Issues and Options, Preferred Directions and Preferred Site Options and Settlement Boundaries documents, and then the draft Submission and Publication, with the HRA report updated each time, and further assessment undertaken in appropriate assessment sections, as required. Earlier screening tables can therefore be found in the previous versions of this HRA report, accompanying the plan consultations at these formal plan making stages.

3.3 When conducting a screening of a plan for likely significant effects, all aspects of the emerging plan that influence sustainable development for the area are checked for risks to European sites. The table at Appendix 4 records the screening undertaken for the Breckland Local Plan Part 1 at Publication stage, with conclusions drawn and recommendations made for each policy proposal, and then a check of Main Modifications. It is important to note that at Publication stage, the plan was considered sound by Breckland Council, and the Main Modifications are those that are recommended as a result of the Examination. This report was be made available to the Examining Inspector, and informed the Hearing Session discussions on European site protection, and the modifications proposed to strengthen these polices further prior to adoption of the plan.

3.4 A likely significant effect could be concluded on the basis of clear evidence of risk to European site interest, or there could be a scientific and plausible justification for concluding that a risk is present, even in the absence of direct evidence. The latter is a precautionary approach, which is one of the foundations of the high-level of protection pursued by EU policy on the environment, in accordance with the EU Treaty.[3] The precautionary principle should be applied at all stages in the HRA process. This follows the

[3] Article 191 of the Treaty on the Functioning of the EU. Previously Article 174 of the Treaty of the EC.

principles established in case law relating to the use of such a principle in applying the European Directives and domestic Habitats Regulations. In particular, the European Court in the 'Waddensee' case[4] refers to "*no reasonable scientific doubt*" and the 'Sweetman' case[5] the Advocate General identified that a positive conclusion on screening for likely significant effects relates to where there "*is a possibility of there being a significant effect*".

3.5 An additional recent European Court of Justice Judgment in 2018 (Case C-323/17) clarified that the need to carefully explain actions taken at each HRA stage, particularly at the screening for likely significant effects stage. The Judgment is a timely reminder of the need for clear distinction between the stages of HRA, and good practice in recognising the function of each. The screening for likely significant effects stage should function as a screening or checking stage, to determine whether further assessment is required. Assessing the nature and extent of potential impacts on European site interest features, and the robustness of mitigation options, should be done at the appropriate assessment stage.

3.6 The screening table 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 that provide clarity or aid project level HRA, for example.

3.7 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 looked at in greater detail, with reference to relevant evidence and information. This assessment is the 'Appropriate Assessment' stage, forming later sections of this report, from section 4 onwards.

3.8 Where identified aspects of the plan are brought forward for appropriate assessment, it is on a precautionary basis. Where there are uncertainties, it is usually more beneficial to assess potential risks in greater detail, with proper reference to evidence, than to try to screen out an element of the plan from any impact whatsoever. Where an impact can be clearly avoided, the screening stage is useful in narrowing down to those elements of the plan that poses a risk to European sites, but if there are risks or uncertainties, the HRA is more robust if those are assessed in the appropriate assessment. This allows for better quantification of risk and more targeted action to prevent adverse effects.

[4] European Court of Justice case C - 127/02
[5] European Court of Justice case C - 258/11

Impact themes

3.9 From the screening undertaken on the plan, is clear that likely significant effects can be categorised under a small number of key themes. These themes have been current throughout the HRA work at previous stages of plan making, and at each plan making stage this HRA report has been updated by revisiting each theme.

3.10 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 form the sections of the appropriate assessment are:

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

3.11 The key themes are risks that 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 has been used throughout the HRAs at each plan making stage, as it provides a helpful illustration of the impact pathways identified and the European sites potentially affected, which then relate to the appropriate assessment sections of this report.

3.12 Within the appropriate assessment each of the impact themes are assessed and mitigation checks are made in terms of the following:

- Underpinning evidence for the impact and the measures developed to mitigate.
- The mitigation measures developed, progress to date and what now needs to be done to take the measures forward (noting where progress has progressed well and where those that are not yet progressed now need to be prioritised).

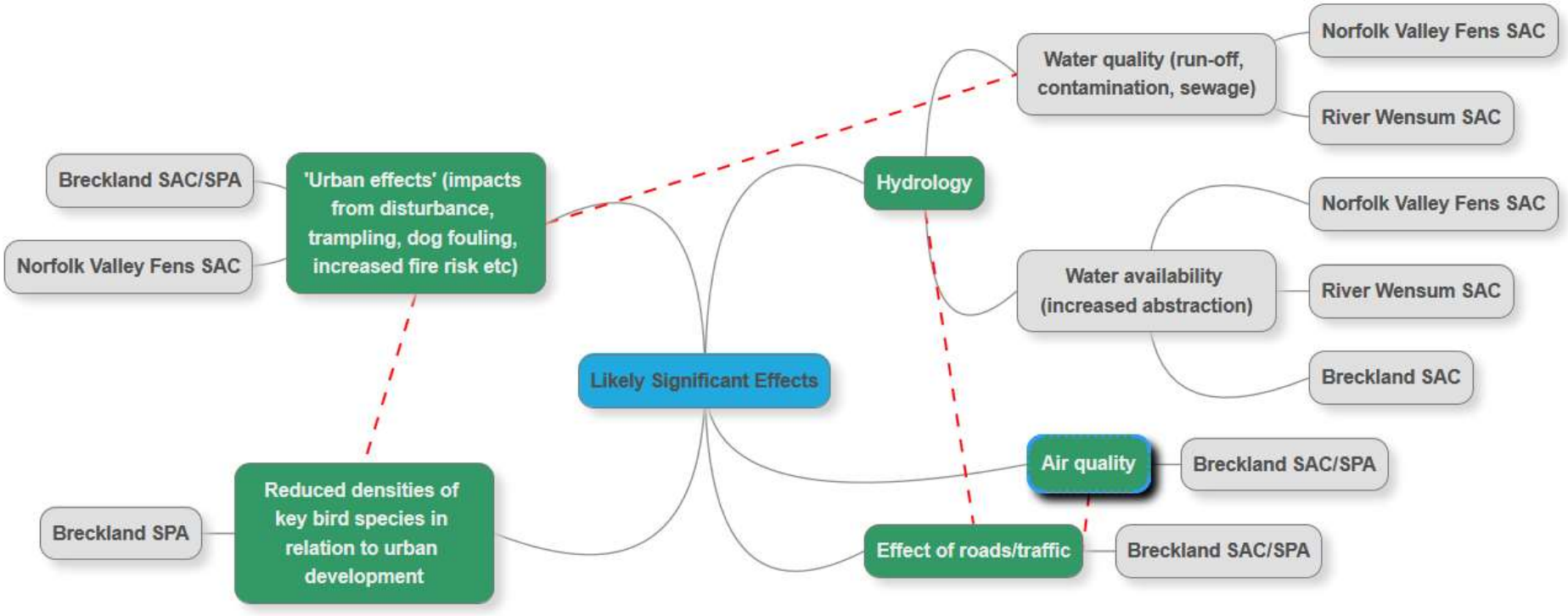


Figure 1: Pathways by which Likely Significant Effect is triggered by different elements within the plan. This diagram outlines the structure of the Appropriate Assessment section of the report, with green shading reflecting headings within the Appropriate Assessment. Red dotted lines reflect closely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

4. Appropriate assessment - reduced densities of key bird species in relation to urban development

Background

4.1 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 2003; Mallord 2005; Liley *et al.* 2007; Sharp *et al.* 2008a; Clarke & Liley 2013a).

4.2 For Nightjar and Woodlark the various studies (Liley & Clarke 2003; Mallord 2005; Liley *et al.* 2006) 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 & Underhill-Day 2013), increased fire risk (Kirby & Tantram 1999; Underhill-Day 2005) or other 'urban effects' (see Underhill-Day 2005 for review). The studies that show impacts or Nightjar and Woodlark have been conducted in areas where there is a high level of urban development surrounding heathland sites, for example in Dorset or the Thames Basin Heaths. By contrast, the impact of buildings for Stone Curlew relates to agricultural land, often with little or no public access and the avoidance of built areas is detectable over large distances. Considerations for Stone Curlews are therefore unique.

4.3 This section of the appropriate assessment therefore focuses on impacts on Stone Curlew and the avoidance of buildings. A separate appropriate assessment section of this report focuses on urban effects, and we include impacts from recreation within that section.

4.4 Previous HRA work for the Core Strategy (Liley *et al.* 2008) identified likely significant effects from development within 1500m of the parts of the Breckland SPA relevant for Stone Curlew[6] or within 1500m of areas outside the SPA supporting notable numbers of Stone Curlews The HRA was informed by work undertaken by Footprint Ecology (Sharp *et al.* 2008a). The use of a 1500m zone around the SPA to identify locations where likely significant effects would be triggered and where adverse effects on integrity would be difficult to rule out has been a consistent approach in strategic HRA work since. Further data analysis (Clarke & Liley 2013a) built on the previous findings, consistently finding avoidance of arable land by Stone Curlews around individual settlements across the Brecks. That work found significant effects out to at least 1500m and, when trying to separate

[6] Note the SPA also includes areas of forestry plantation that do not tend to support Stone Curlew but are included in the SPA because they support Nightjars and Woodlarks.

different types of buildings, found some evidence that residential, rather than other types of building, were linked to the avoidance pattern found.

4.5 The analysis of Liley & Clarke was based on actual buildings, using GIS data representing the individual footprint of buildings extracted from GIS data. The predicted impact of a building is greater where the present area of nearby buildings is low (i.e. greater impact for isolated buildings) and suggests that the total area covered by the nearby buildings has some influence over and above the simple number of nearby buildings. The analysis provides no indication of what factor or factors are behind the avoidance of built development by stone curlews, nor does the analysis provide any evidence of particular mitigation approaches and their effectiveness.

Check & revision of 1500m buffers

4.6 In order to avoid impacts of built development on Stone Curlews, the Breckland Local Development Framework policies within the various planning documents produced up to now have included 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[7]. 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'.

4.7 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 criterion 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[8]. 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.

4.8 It is now timely to review the buffers previously used. While there is still strong evidence that the 1500m distance is appropriate (Clarke & Liley 2013b; 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

[7] Unless that development is within existing urban areas and is in-fill
[8] The buffer is included in the Breckland Core Strategy on page 27, 2.6 key diagram: it is represented by blue hatching

Curlews and the areas outside the SPA that are also important. 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, and revised buffers were included in the HRA for the Preferred Site Options and Settlement Boundaries. Revision of the buffers will strengthen the policy approach to protecting Stone Curlew, in light of the most up to date information available.

4.9 We have data provided by the RSPB (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, meaning use of a longer time window would risk there being areas of differential survey effort. 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. While data from 2016 were also available, survey coverage was further scaled back by the RSPB in 2016 so that data were not used.

1500m buffer for the SPA ('primary buffer')

4.10 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 Curlew during the period 2011-15. Relevant compartments[9] (based on SSSI unit GIS layer) were therefore buffered.
- Some forestry blocks have been excluded when drawing the primary buffer, for example near West Stow, Bridgham/West Harling, south of Swaffham and by Northwold. These areas had previously been included because there were odd records of Stone Curlew nesting attempts in these areas. We suspect these may in some cases relate to birds nesting very close or on the boundary and the grid reference being slightly incorrect. The absence of records in the 2011-2015 data indicates it is appropriate to remove them.

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

4.11 Areas outside the SPA that have supported a number of recent nesting attempts were identified as follows:

- We used a grid of 1km squares, aligned to the National Grid

[9] 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.

- 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.

4.12 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).

4.13 We have chosen five nests within a 1km grid square to highlight areas that could be considered functionally linked to the SPA, i.e. habitat outside the SPA but performing a critical function to support the survival of the site interest feature. In order to provide meaningful guidance in policy, there is a need to identify what might constitute functionally linked land. However, there is a challenge in setting a particular threshold as Stone Curlews nest at low densities and may use individual fields infrequently, depending for example on crop type. There may be individual fields that have held multiple nesting attempts over the five years where the rest of the square is unsuitable, and therefore our threshold of five is not exceeded.

4.14 As such the use of our figure of five nests is a guide only and there may be areas outside the buffer that still warrant further checks and consideration at project level HRA It should not therefore be seen as an absolute minimum if there is evidence to suggest the land performs a supporting function. It is also a threshold that should not be used to inform purposes for which it was not intended. It is not, for example, a threshold to indicate habitat use or otherwise within the SPA, or for use with other SPA interest features.

4.15 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 for primary and secondary buffers

4.16 The resulting updated map is shown in Map 2. The dark green solid shading shows the SPA and the red hatching around the SPA is the 1500m buffer (the primary buffer).

4.17 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.

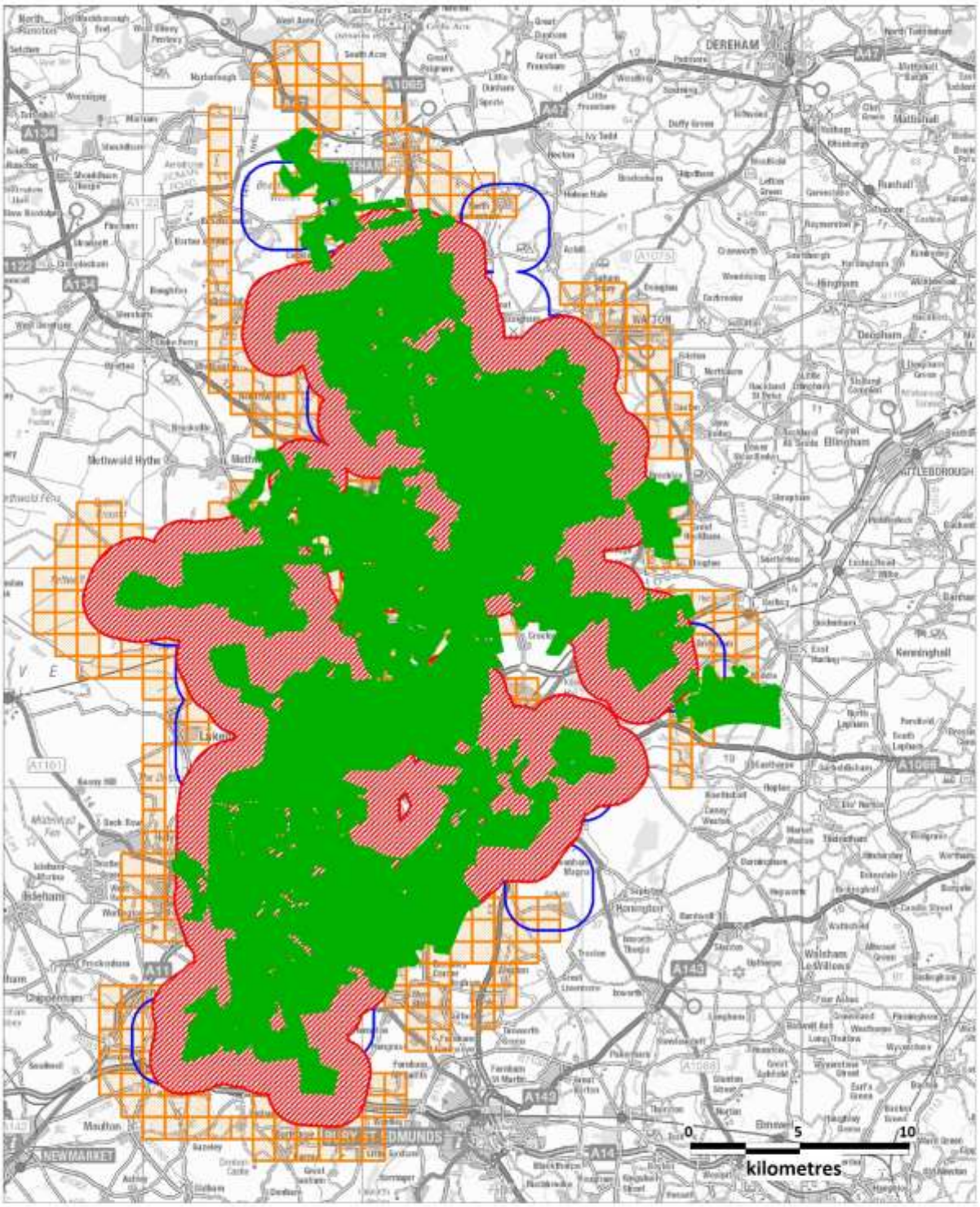
Addition of orange cells

4.18 Utilising the more up to date dataset from the RSPB has led to an opportunity to provide further guidance for policy implementation. Map 2 now shows orange grid cells, which identify 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 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.

4.19 As a consequence of this collaborative work with the RSPB and Natural England, in addition to the longstanding primary and secondary buffer, policy ENV3 now introduces the orange cells as an additional safeguard in respect of possible areas that potentially have a functional link to the SPA, subject to additional data gathering at the development project level. this has been developed as a result. The orange cells are not a zone of development constraint or a mitigation measures, rather they are a flag for applicants to understand the requirements related to the site in terms of submission of a project level HRA. The orange cell areas are flagged as potential for Stone Curlew presence. They have not been focussed on in terms of data collection at the plan level, as this would be disproportionate. They are identified as an area where additional data checks or surveys may be required which can be covered by a project level HRA.

4.20 For plan level HRA purposes, for those allocations within the orange cells, mitigation can, in principle, be provided and the plan is therefore fully compliant with the Habitats Regulations. The orange cells are an aid to developers to give early identification of project level HRA data requirements.

Map 2: Stone Curlew buffers



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Incorporation of revised buffers within the Plan

4.21 The revised map and accompanying explanation/policy wording is included within the Plan. Policy ENV 3 explains the approach, and as explained in the previous section, has been the subject of revision between Footprint Ecology and Breckland Council, in order to fully reflect the findings and recommendations of this HRA.

4.22 These buffers should work such that:

There is a presumption against development within the 1500m primary buffer, because there is a good evidence base to conclude likely significant effects. It is further concluded that on the basis of evidence available at the plan level, adverse effects on site integrity cannot be ruled out. However, it is recognised from the evidence that there may be exceptions where further project level information, surveys and analysis could demonstrate that a development could proceed without adverse effects. The plan level evidence suggests that development could potentially be able to rule out adverse effects where:

- The development is fully within an existing urban area (i.e. high levels of existing housing) and is completely masked from the SPA on all sides (i.e. infill development);
- The development that is a re-development of existing building(s) and would not increase the existing footprint or intensity of use and potential detractors (such as noise, light, people);
- The development involves agricultural building of less than 120 sqm;
- The development involves an extension to existing agricultural buildings of less than 120 sqm or 100% of the original, whichever is less.

The secondary buffer identifies areas where we can be confident that the land is functionally linked to the SPA in terms of use by Stone Curlews, and where:

- Project level assessment will be required to rule out adverse effects on integrity, and this may include provision of mitigation measures to negate the loss or deterioration of functionally linked land as a result of the development; and
- Further survey work may be necessary.

The orange cells identify where there is a survey deficit and further information will therefore be required at the project level. As with the secondary buffer:

- Further survey work will be necessary.
- Project level assessment will be required to rule out adverse effects on integrity, and where survey work identifies potential impacts on functionally linked mand, the HRA may include provision of mitigation

measures to negate the loss or deterioration of functionally linked land as a result of the development.

4.23 Large developments adjacent to or just outside the primary or secondary buffer, particularly where occurring in an isolated area with few other buildings, are likely to also require project level assessment.

4.24 Policy ENV 03 addresses the Stone Curlew buffers and the revised buffers are included within the Plan. This policy wording reflects the evidence base and builds upon the policy wording first incorporated in the Core Strategy in 2008. As such adverse effects on integrity to the Breckland SPA as a result of avoidance of buildings by Stone Curlews can be ruled out with the application of all revised buffers and policy text. The environmental policies ENV 02 and ENV 03 have been considered in detail between Footprint Ecology and Breckland Council during the preparation of this HRA.

4.25 It is noted from the screening of the plan for likely significant effects that a number of allocations are within areas of identified functionally linked/possible functionally linked land for Breckland SPA. The screening table at Appendix 4 highlights where text therefore needs to be added to make clear that there will be survey and mitigation requirements in these areas, and a project level HRA may or may not be able to rule out adverse effects on site integrity, depending on the suitability of mitigation proposed.

4.26 In updating and finalising this HRA report for the Modifications stage of the Breckland Local Plan, a full check of the Local Plan has been undertaken again. Recommendations made in the likely significant effects table at Appendix 4 in relation to bird disturbance and the recommendations for revising policies ENV2 and ENV3 and their supporting text have been fully incorporated. The appropriate assessment at plan level for assessing potentially reduced densities of key bird species in relation to urban development can conclude that adverse effects have been prevented with the measures incorporated, and the ongoing work that the Council will do to progress implementation of measures, working with other partners and stakeholders.

5. Appropriate assessment - urban effects (including recreational disturbance)

5.1 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.

5.2 Impacts of disturbance for Woodlark and Nightjar are well documented (Murison 2002; Liley *et al.* 2006; Mallord *et al.* 2007). There are also a range of reviews and other relevant work on urban effects (Underhill-Day 2005; Chace & Walsh 2006; Mcdonald, Kareiva & Forman 2008; Mcdonald *et al.* 2009; Hall *et al.* 2016).

5.3 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).

5.4 We include 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. The avoidance of buildings by Stone Curlew is however considered separately as the distances involved, habitats (agricultural land with no access) and other issues are unique to that species. Also, closely linked to 'urban effects' 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

Breckland SAC	Breckland SPA	Norfolk Valley Fens
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		

5.5 In the previous iterations of the HRA (e.g. 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 and these have now been filtered out of the plan. 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 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.

5.6 Cumulate effects will relate to the overall scale of growth around the European sites. The overall level of growth (15,297 dwellings) is marked and will occur in a relatively short time period (2011 - 2036), with an anticipated rate of 612 new dwellings per annum. The figures in the Plan given within the spatial portrait suggest an increase in population from 131,857 people in 2012 to 153,678 people in 2036, an increase of around 17%. GIS data from 2016 indicates around 59,500 residential delivery points within Breckland District. At a rate of 612 dwellings per year, 12,852 new dwellings would therefore be expected to be built through to 2036, an increase of over 20% in the number of dwellings.

5.7 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).

5.8 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 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.

5.9 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.

5.10 In line with previous assessment work and the Breckland Core Strategy, it needs to be recognised that whilst significant issues in relation to recreation disturbance are not currently evident, there is a requirement to maintain interest features and prevent deterioration. This therefore means recognising interest feature sensitivities and the nature of future growth, which may otherwise lead to harm to the SPA if evidence is not continually checked and preventative measures are not in place.

5.11 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.

5.12 Following on from Core Strategy recommendations in this regard, which to date have not been fully progressed, it is recommended that

- a framework committed to within Policy ENV 3 for working with relevant partners to protect and restore the most urban heath sites, with a requirement for developers to contribute to measures within the framework where development may lead to increased recreation use of urban heaths.
- adequate recreation provision is secured within new development that might otherwise increase recreation pressure, particularly at accessible forest sites. Breckland Council should work with partners to appropriately manage recreation, again particularly at accessible forest sites.

5.13 It was recommended that these commitments should be included in ENV 3. In updating and finalising this HRA report for the Publication version of the Breckland Local Plan, a full check of the Local Plan has been undertaken again. Recommendations made in the likely significant effects table at Appendix 4 in relation to urban effects and recreation disturbance, and the recommendations for revising policies ENV2 and ENV3 and their supporting text have been fully incorporated. The appropriate assessment at plan level for assessing urban effects and recreation disturbance can now conclude that adverse effects have been prevented with the measures

incorporated and the ongoing work that the Council will do to progress implementation of measures, working with other partners and stakeholders. The latter is particularly relevant for the development of the mitigation programmes/framework now referred to within policy ENV3.

Additional measures in sensitive areas of focussed growth (Thetford, Swaffham, Mundford).

5.14 The recent additional evidence gathering in conjunction with Norfolk local planning authorities (Panter, Liley & Lowen 2017), indicates that additional growth at Thetford, Swaffham and Mundford could result in more significant recreation impacts, given the current visitor use from these settlements and their proximity to Breckland SPA/SAC. In light of this new research it is recommended that Policy ENV 03 should include a requirement for additional focussed measures at Thetford, Swaffham and Mundford. These measures should be developed by the Council and partners to effectively advise project level HRAs. It is suggested that a prescriptive strategic approach is not required at this point in time, but rather the Council should look to ensure that mitigation measures are co-ordinated to achieve maximum benefits and European site protection.

5.15 As noted above, recommendations made in the likely significant effects table at Appendix 4 in relation to urban effects and recreation disturbance, and the recommendations for revising policies ENV2 and ENV3 and their supporting text have now been fully incorporated within the Publication version of the plan. This includes, where required, reference to measures at Thetford, Swaffham and Mundford.

6. Air quality

6.1 Airborne nitrogen (mostly as ammonia and nitrous oxides) from burning fossil fuels by industry, traffic, shipping and agriculture, can have marked impacts for nature conservation sites. Habitats such as heathlands are low nutrient systems with poor buffering capability against inputs of nutrients (mostly airborne nitrogen) or increases in acidity (mostly a side effect of nitrogen or from airborne sulphur).

6.2 Many specialist plant species, particularly those associated with heathland and grassland habitats, can only survive and compete successfully on soils with low nitrogen availability (Bobbink & Heil 1993). The addition of nitrogen in rain or dust particles, results in an increase in the nitrogen in the vegetation, litter and upper soil layers, and this builds up over time. Impacts have been detected on heathland within 200m of roads (Angold 1997).

6.3 There is a challenge in resolving air quality impacts as the issues relate to a wide variety of potential sources and long-term changes in vegetation that can be difficult to pin-point or record.

6.4 In Map 3 we show the distribution of all major roads within and around Breckland District. From this we can highlight the following roads running within 200m of SAC sites where air pollution from atmospheric nitrogen has been identified by Natural England as a current threat or pressure in the site improvement plan (Breckland SAC[10], Norfolk Valley Fens[11] and Waveney & Little Ouse Valley Fens[12]):

- A1065 Breckland
- A47(T) Norfolk Valley Fens
- A1075 Norfolk Valley Fens
- A134 Breckland
- A11(T) Breckland
- A1075 Breckland
- A1066 Waveney & Waveney & Little Ouse Valley Fens
- A11(T) Norfolk Valley Fens
- B1146 Norfolk Valley Fens
- B1135 Norfolk Valley Fens
- B1107 Breckland
- B1108 Breckland
- B1111 Norfolk Valley Fens
- B1113 Waveney & Little Ouse Valley Fens

[10] http://publications.naturalengland.org.uk/publication/5075188492271616
[11] http://publications.naturalengland.org.uk/publication/6261291761008640
[12] http://publications.naturalengland.org.uk/publication/5465193064693760

6.5 Following a recent High Court decision relating to Ashdown Forest[13] there is now some uncertainty over the correct approach to assessment of plans or projects with air quality impacts. The High Court's decision criticised the advice that Natural England (and by analogy others e.g. the Environment Agency) had given about there being no need to carry out an express "in combination assessment" in relation to plans and projects which, alone, have air quality impacts falling below a particular threshold.

6.6 Protecting, maintaining and restoring European wildlife sites should not be reactive when there are clear indicators of deterioration. Rather, the legislation and NPPF policy in relation to the environment indicates that it is in integral part of sustainable development and an ongoing area of work. The objectives of the European Directives are to maintain European site interest, and restore where there is existing deterioration. It follows therefore that putting in place checks to avoid deterioration, or gathering further evidence to inform future action if necessary, is a meaningful measure to achieve these objectives.

6.7 It is recommended that Breckland Council reviews current air quality monitoring and the triggers for requesting air quality assessments as part of planning applications, to determine whether this adequately protects sites from air quality impacts. The plan does not specifically include an air quality policy. Recommendations therefore need to be taken forward by the Council as part of their duties to meet the objectives of the legislation.

6.8 For this Local Plan HRA, the recommendations made here are not currently a matter requiring a strategic approach within the Local Plan at this stage, but rather it is an aspect of European site protection that warrants further attention through checking that the right processes, underpinned by the right evidence, are in place. Map 3 should assist Breckland Council in determining the locations where large-scale developments leading to increases in traffic volumes on roads within 200m of European sites would need to provide traffic and air quality assessments.

6.9 Specific air quality considerations need to be given when road improvements are necessary. The plan refers to A11 and A47 dualling, with the A11 dualling now complete. Further improvements to the A11 are proposed as part of the Thetford SUE, currently with outline permission pending finalisation of the S106. The legal agreement is not yet finalised because there are a number of outstanding matters in relation to the European site mitigation. Until these are resolved and there is confidence that the measures are secured, fit for purpose and will be implemented in a timely way to prevent adverse effects, the S106 cannot be finalised. Dualling of the A47 is already in place in some stretches, including those closest to Breckland SPA/SAC. However, there is a risk that some of the improvement works to the A47 could come in close proximity to forested parts of the SPA, and therefore potentially affect nightjar and woodlark and their functionally linked habitat, or could affect stone curlew functionally linked land. These

[13] Wealden District Council v Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority [2017] EWHC 351

potential risks should be capable of mitigation, but it is recommended that early consideration of survey needs and potential mitigation land requirements, will need to be factored in to project options and appraisal, before detailed designs are embarked upon. The likely significant effects table makes recommendations for text additions to this effect, with reference to preparing for project level HRA.

6.10 In updating and finalising this HRA report for the Modifications stage of the Breckland Local Plan, a full check of the Local Plan has been undertaken again. Recommendations made in the likely significant effects table at Appendix 4 in relation to air quality and transport/traffic have been fully incorporated. There is now reference to the need for early evidence gathering for transport schemes. The appropriate assessment at plan level for assessing air quality can now conclude that adverse effects have been prevented with the measures incorporated.

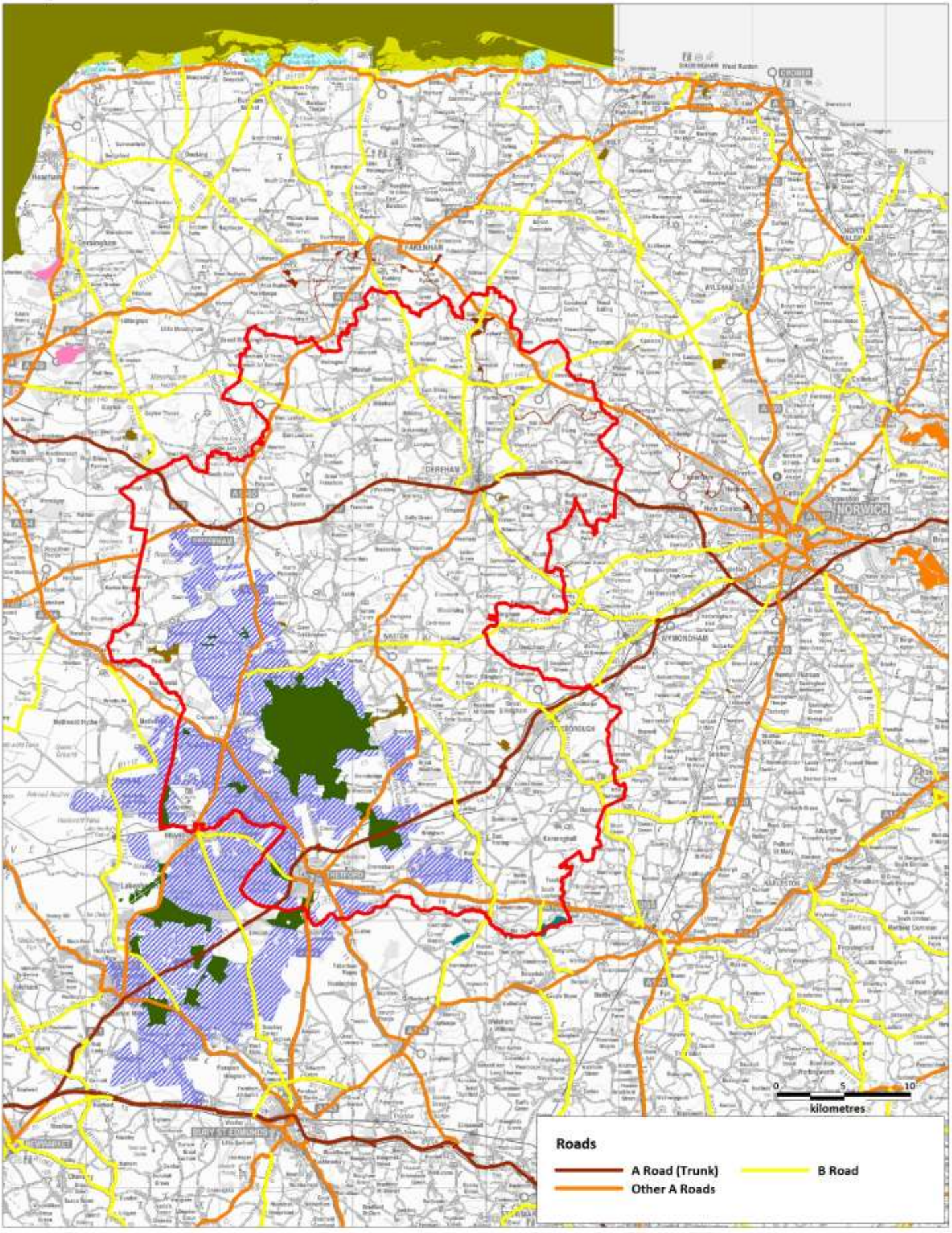
Effects of roads and traffic on Stone Curlew

6.11 A range of studies have shown that Stone Curlew avoid nesting close to roads (Day 2003; Sharp *et al.* 2008; Clarke & Liley 2013). The most recent study (Clarke & Liley 2013) found lower nest densities on arable land close to trunk A roads and within 500m of the road in particular. Findings from previous studies (e.g. Sharpe *et al.* 2008) indicate that it is the volume of traffic along the roads that is the key measure relating to the avoidance of the land near roads.

6.12 The recommended measures remain consistent with Core Strategy HRA, which are that no road improvements should be promoted within 200m of Breckland SAC, and within 1500m of Breckland SPA. This should be reflected in the Local Plan supporting text for transport.

6.13 As above, in updating and finalising this HRA report for the Modifications stage of the Breckland Local Plan, a full check of the Local Plan has been undertaken again, and it is noted that reference is made within supporting text for the transport section of the Local Plan to the 200m and 1500m zones.

Map 3: Roads and European Sites



SACs

- Breckland
- Norfolk Valley Fens
- North Norfolk Coast
- River Wensum
- Roydon Common & Dersingham Bog
- The Broads
- The Wash & North Norfolk Coast
- Waveney & Little Ouse Valley Fens
- Winterton-Horsey Dunes

SPAs
(only areas outside SACs shown)

- Breckland
- N Norfolk Coast

Breckland District

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7. Water supply, water quality and waste water discharge, flood risk

7.1 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.

7.2 Previous Habitats Regulations Assessment work for the documents within the Local Development Framework identified the need for precautionary progression of housing delivery up to the previous plan period end of 2026, to ensure that water issues did not pose a risk to European sites. The Core Strategy provided this security in policy wording that required a stepwise approach to bringing housing forward, in line with gathering certainty from new evidence over time that is necessary to demonstrate that the full quantum of housing could be delivered without adverse effects.

7.3 Sites with a sensitivity to water quality and resource changes 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)

7.4 The Norfolk Valley Fens SAC is a European site made up of a number of isolated fen fragments. As shown on Map 1, there are a number of SAC fragments in close proximity to potential housing allocations (as previously described, these are the reasonable and un-reasonable alternatives). Of particular note is potential housing allocations at Attleborough and Dereham. Some of these sites have also been discussed in earlier sections of the appropriate assessment in relation to urban effects.

7.5 Natural England has advised Footprint Ecology that there are potential concerns with regard to isolation, run-off and water abstraction in relation to the Norfolk Valley Fens SAC, and run off in particular is a focus of Natural England's programme of site improvements. These issues therefore need to be considered with the key evidence documents for water; the Water Cycle Study prepared by Breckland Council and the Flood Risk Assessment work undertaken by the County Council. It will be important to consider hydrological connections within the catchment of each fen, as part of the Water Cycle Study.

7.6 The proposed Attleborough SUE has been a priority for housing delivery over a number of years, and the Council has worked with the developer to bring forward a suitable development

proposal, which was the subject of an Environmental Impact Assessment (EIA) Scoping Report in March 2015, and an application is now in the final stages of preparation, with a full Environmental Statement to be submitted alongside the application. The EIA should provide an in-depth assessment of the environmental impacts of the proposed large urban extension at this location. It is imperative that the Council ensure that the Environment Statement includes adequate consideration of potential effects on European sites, including all potential risks detailed in the appropriate assessment chapters of this report.

Water Cycle Study

7.7 The Breckland Water Cycle Study was produced in 2 phases, with a Phase 1 Outline Study undertaken 2008, and then a Phase 2 detailed study was completed in May 2010. The Water Cycle Study work set out the detailed solutions required for delivering growth for the specific development allocations, including detailed information on the cost of the infrastructure and timing of the required works necessary to deliver sustainable water supply and waste water treatment Specific requirements, such as the need for a new mains sewer for Thetford, were identified.

7.8 Now that the Local Development Framework has partially delivered its housing target, and a new Local Plan is being prepared, it is necessary to revisit the available evidence to determine whether the new quantum and pace of growth proposed by the new Local Plan can be sustained in terms of water supply and water treatment and management, without risking adverse effects on any European site, or without impeding the delivery of conservation objectives to restore any European site.

7.9 A Water Cycle Study update has now been prepared 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. With revised growth and new site allocations in 2016, an update to the assessment of water environment and water infrastructure provision was required, taking into account differences in growth targets and locations as well as changes in infrastructure capacity and planning to that assessed in 2010. The Water Cycle Study update provides an updated assessment for this purpose.

7.10 The revised Water Cycle Study for 2017 specifically considers the issues for Attleborough SUE, where it is recognised that the Waste Water Treatment Works (WWTW) would require the implementation of new and improved treatment technologies to ensure that water can continue to meet the required legislative targets. The study further states that Anglian Water Services are progressing trials to inform the necessary upgrades in the next water company investment period (2020 to 2025), therefore securing the necessary measures to protect the natural environment. Reference is made within the Attleborough SUE policy and supporting text, and also the forthcoming Infrastructure Delivery Plan, for a threshold of housing delivery, beyond which cannot be accommodated without further upgrades.

7.11 For Dereham, the updated study advises that continued management of treatment headroom is required through several measures including: reducing water use within the existing property in the town; and, monitoring changes in occupancy rate. The study advises that if headroom is exceeded, enhanced treatment technologies as proposed for Attleborough would be considered to ensure downstream water quality targets are met. This is also supplemented with a recommendation for proposals to request information on headroom capacity. These solutions pose some risks if not managed in a timely manner. Headroom should not be exceeded, rather there should be additional monitoring and close accounting of development coming forward, to ensure that headroom is not breached.

7.12 The update to the study goes on to advise that the planned phasing of growth in Dereham needs to be part of ongoing discussions between relevant bodies. Policy wording needs to make clear the need for further work and consideration of phasing development, dependent upon the specific solution identified.

7.13 All housing allocations in the plan have policy text relating to the need to make a pre-development enquiry. This needs to be changed to a pre-application enquiry. If a development has permission, the water utility company is obliged to secure water resource and treatment facilities, so this text does not offer protection and these issues require early warning and early implementation of solutions.

7.14 For water supply, the Water Cycle Study update indicates that the level of growth within the Local Plan is factored into the current Anglian Water Services Water Resources Management Plan, which has been approved by the Environment Agency and Defra. The update therefore concludes that a sufficient sustainable water supply is available to meet planned demand without impacting adversely on the environment. However, the study does note the potential need for a winter storage reservoir in the Norfolk Fens in the longer term. This will need early consideration in terms of European site impacts, in order for it to be relied upon as a solution to support future growth.

7.15 In updating and finalising this HRA report for the Publication version of the Breckland Local Plan, a full check of the Local Plan has been undertaken to confirm that recommendations made in in relation to water issues have been fully incorporated. This appropriate assessment can therefore conclude that adverse effects on European sites are prevented at the plan level by the modifications made.

Flood Risk Assessment Update

7.16 The update, as with the Water Cycle Study update, informs the preparation of the new Local Plan. Whilst recognising that the County Council is the Lead Local Flood Authority, the update gives clear recommendations for policy improvements and strengthening within the Breckland Local Plan, as follows:

- Seeking Flood Risk Reduction through Spatial Planning and Site Design
- Reducing Surface Water Runoff from New Developments

- Enhancing and Restoring the River Corridor
- Protecting and Promoting Areas for Future Flood Alleviation Schemes
- Improving Flood Resilience and Emergency Planning

7.17 Some of these relate to the maintenance and restoration of the natural environment, but were not fully integrated into Policy ENV 09. Additional text in relation to enhancing and restoring the river corridor and protecting future areas for sustainable flood management should be added, noting that some of this work will be with neighbouring authorities and the County Council as Lead Local Flood Authority. In re-checking the Breckland Local Plan at its final Publication version, it is noted that these amendments have now been made. The subsequent proposed Modifications screening highlights that the policy now provides strong and positive policy wording in relation to sustainable flood management.

8. Plan Changes as a Result of Appropriate Assessment

8.1 A comprehensive set of text modifications were recommended in the screening for likely significant effects table at Appendix 4. The appropriate assessment sections add to these recommendations and make further proposals for strengthened or modified mitigation, and a number of additional actions in relation to implementing mitigation measures, that the Council needs to progress as a priority.

8.2 Forthcoming additional plans and strategies, such as the Attleborough Masterplan (prepared by the developer), and those that will be updated in the future, such as Infrastructure Delivery Plan, should demonstrate conformity with this HRA. Where required, they should seek to embed mitigation measures to secure their implementation, particularly in relation to key themes such as transport and water treatment. Attleborough is the subject of its own Neighbourhood Plan, with accompanying HRA. Cross reference with this HRA is advised.

8.3 The recommendations are extensive, but are comprehensive enough to give certainty that the plan will not adversely affect European sites. Footprint Ecology has been working with the Council as the HRA report has been developed, to capture the necessary actions to progress in terms of the measures to develop with partners, further evidence needs and monitoring requirements.

8.4 The recommendations of this HRA report have now been considered by the Council and text revisions for environmental policies ENV 02 and 03 were discussed in detail with the planning officers. The Publication version of the plan finalised with all recommendations made in this HRA report embedded. This HRA has subsequently been updated again, having re-checked the following impacts from the plan and resultant potential effects:

8.5 **Reduced bird densities as a result of disturbance** – Recommendations now fully incorporated, including the new Stone Curlew buffer map and a revised policy ENV3 in accordance with recommendations made in this HRA report and during detailed discussions with planning officers.

8.6 **Urban effects and recreation pressure** – Recommendations now fully incorporated, particularly in ENV3 in relation to progressing mitigation measures previously required for the Core Strategy HRA. The necessary work programmes/frameworks need to be progressed by the Council in partnership with others.

8.7 **Air Quality** – Changes recommended for supporting text now fully incorporated in relation to early evidence gathering for road schemes. In addition to plan level measures, this HRA also recommends that Breckland Council reviews current air quality monitoring and the triggers for requesting air quality assessments as part of planning applications, to ensure that current processes adequately protect sites from air quality impacts.

8.8 **Water issues for Attleborough** – The updated Water Cycle Study identifies the need for new and improved treatment technologies for the WWTW that will serve the Attleborough SUE, which are to come forward between 2020 and 2025. Phased development is therefore set out within the plan and also the forthcoming Infrastructure Delivery Plan. In taking forward the planning application for the SUE, the Council will need to check that the Environment Statement includes adequate consideration of potential effects on European sites, having regard for all potential risks detailed in the appropriate assessment chapters of this report. This should include assessing potential impacts on the fragmented sites of the Norfolk Valley Fens SAC, which are in close proximity.

8.9 **Water issues for Dereham** - The recommendation to require a pre-application enquiry with the relevant water utility company has now been added to the plan. Previously the plan required a pre-development enquiry, which did not allow for issues to be resolved to inform the project level HRA for the planning permission being given.

8.10 **Water supply** - It should be noted that the Water Cycle Study advises on the potential need for a winter storage reservoir in the Norfolk Fens in the longer term. This needs to be the subject of ongoing review by the Council as the Local {Plan is implemented and future Local Plan Reviews are instigated.

8.11 **Flood Risk** - Policy ENV 09 has now been amended to refer to enhancing and restoring the river corridor and protecting future areas for sustainable flood management.

9. Examination in Public and Main Modifications

9.1 The Examination in Public Hearing Sessions were held in summer 2018. During the Hearing Sessions for Environmental policies, the Examining Inspector led specific sessions on Policies ENV2 and ENV3 in relation to European site protection. Discussions in relation to policy ENV 2 also considered whether policy wording adequately and correctly secured biodiversity net gains as part of development in accordance with the National Planning Policy Framework and current focus on net gain within the recently published Defra 25 Year Plan[14], and emerging professional institute guidance on good practice in securing biodiversity net gain within development[15].

9.2 Additionally, the Inspector discussed the relevance of a recent European Court of Justice (ECJ) Judgment to the policies and the HRA. The 12 April 2018 Judgment of the ECJ (Seventh Chamber) in *People Over Wind & Sweetman v Coillte Teoranta* (Case C-323/17) has highlighted the need to carefully explain actions taken at each HRA stage, particularly at the screening for likely significant effects stage. The Examining Inspector checked the HRA process undertaken in relation to the principles of this Judgment, including clarifying the status of the buffers for Breckland SPA referred to in Policy ENV3.

9.3 After the Hearing Sessions, the Inspector recommended Modifications to the plan to address soundness issues, including those relating to the natural environment. All Modifications have been checked to ensure that they do not raise additional risks to European sites, or do not exacerbate any previously resolved risks. The screening of the Modifications is recorded in the final column of the screening table at Appendix 4.

9.4 The HRA prepared at the Publication stage of plan making includes details the recommended edits to policies ENV 02 and ENV 03 to ensure compliance with the Habitats Regulations. These edits were fully incorporated in the Submission publication of the Breckland Local Plan. As a result of the Examination Hearing Sessions, further modifications have now been proposed to these policies to address potential soundness issues. The Main Modifications to the policies further strengthen and clarify the protective measures for European sites and there is additional positive wording in relation to wider biodiversity matters, as described below.

Modifications to ENV2 and ENV3

9.5 The Modifications reflect the Inspector's recommendations discussed during the Hearing Sessions, to provide better alignment with the wording of the Habitats Regulations, clarity in relation to biodiversity net gain requirements that should be for all development, and also should

[14] https://www.gov.uk/government/publications/25-year-environment-plan

[15] https://www.cieem.net/biodiversity-net-gain-principles-and-guidance-for-uk-construction-and-developments

be proportionate. The Inspector also suggested that a more suitable policy title would be preferable.

9.6 In confirming conformity with the recent Judgment, the HRA supporting the Breckland Local Plan includes an appropriate assessment, that adequately provides a detailed scrutiny of potential impacts and mitigation needs. Additionally, the HRA seeks to assist Breckland Council with recommendations for strengthening policy and supporting text to better align with the terminology of the legislation, or to provide clarity and further assistance to project level HRAs. These recommendations are not mitigation that requires further assessment.

9.7 An example of a recommendation to assist project level HRA relates to the 'orange cells' within policy ENV 3 and its associated map that illustrates a range of zones in relation to the avian interest features of the Brecks SPA. Here there are a number of zones applied, that result from extensive background HRA and evidence gathering work, and which are continually refined in light of new evidence.

9.8 The orange cells have been added as a result of collaborative work with the RSPB and Natural England, to better assist developers seeking to make a planning application in the vicinity of the SPA. Survey work undertaken by the RSPB has enabled the identification of land outside the SPA as orange cells that may potentially be supporting habitat for Stone Curlew. If development comes forward within these orange cells, the developer is made aware by their inclusion within the local plan that a project level HRA will need to be informed by up to date Stone Curlew survey work, and that mitigation may need to be provided. The inclusion of the orange cells within the Local Plan is not mitigation. It is a flag for applicants to enable them to understand upfront what their application requirements will be. Project level HRA will assess mitigation suitability, with an understanding that in principle, supporting habitat can be recreated.

9.9 To inform the hearing session for Matter 12, Breckland Council sought legal advice, which was provided to the Examining Inspector and concurs with this advice note. The advice provides three main points; the Judgment does not call into question the lawfulness of the Breckland Local Plan HRA, as it includes an appropriate assessment, the HRA and Local Plan serves to provide clarity on where project level HRA is required, and that the Judgment confirms the need for project level appropriate assessment in relation to any project level mitigation proposal where supporting habitat for the SPA may be affected.

9.10 With modifications to Policy ENV2, and an updated map included in the Modifications to relate to the buffers for ENV3, it is concluded that the Main Modifications have strengthened and clarified European site requirements. They have also provided positive wording in relation to wider biodiversity net gain, in accordance with the NPPF and emerging good practice.

10. Conclusions

10.1 This HRA report informed the Examination in Public and the Hearing Sessions in relation to polices that provide protection for European sites. Footprint Ecology supported the Council, as described in Section 9 of this report, at these sessions. Final Main Modifications in relation to Policies ENV2 and ENV3 have been developed from those sessions.

10.2 This HRA report includes a screen of all Main Modifications proposed after Examination, including those to Policies ENV2 and ENV 3. All modifications can be screened as not likely to have any significant effects. They do not pose any additional concerns in relation to European sites. Modifications in relation to ENV2 and ENV3 are explained in Section 8 above.

10.3 The plan and this HRA report are now considered to be fully compliant with the Habitats Regulations, and has been revised to ensure it demonstrates conformity with recent European caselaw. This HRA report is now finalised and able to confirm that adverse effects on site integrity have been ruled out by the assessment undertaken and changes made at the various iterations of plan making. The Local Plan is considered sound in terms of its protection of European sites and adherence to the Habitats Regulations.

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12. Appendix 1: HRA process

12.1 The designation, protection, restoration and enhancement of European wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2017, which are commonly referred to as the 'Habitats Regulations.' The most recent version of the Habitats Regulations does not affect the principles of European site assessment as defined by the previous Regulations, and which forms the focus of this report. Regulation numbers have changed from the 2010 Regulations.

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 Since the Government commenced with the processes necessary for the UK to leave the European Union, it has been recognised that much of our domestic law originates in European Directives. The EU Withdrawal Act 2018 is an important part of the exit process, and secures all enactments currently in force under EU law that are relevant to the UK as domestic legislation. This then retains all such legislation until or unless specifically repealed. The Habitats Directive and Wild Birds Directive will therefore be retained and applied after the UK leaves the European Union.

12.4 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.

12.5 Where sites are not achieving their potential, the focus should be on restoration. Article 10 of the Habitats Directive particularly encourages land use planning policies to endeavour to improve the European site network by managing the landscape for the benefit of wild flora and fauna, therefore encouraging an approach that secures coherence of the network through beneficial management that does not stop at site boundaries.

12.6 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 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.

12.7 It should be noted that in addition to Ramsar sites, the National Planning Policy Framework (NPPF) 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 64 of the Habitats Regulations, as described below.

12.8 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 63 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 105 specifically sets out the process for assessing emerging land use plans.

12.9 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.

12.10 Throughout all stages, there is a continual consideration of the options available to avoid and mitigate any identified potential impacts. A competent authority may 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.

12.11 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.

12.12 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.

12.13 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. 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.

12.14 Where adverse effects cannot be ruled out, there are further exceptional tests set out in Regulation 64 for plans and projects and in Regulation 107 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.

12.15 In such circumstances where a competent authority considers that a plan or project should proceed under Regulations 64 or 107, 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.

12.16 Once a plan is in place, projects will come forward in accordance with the plan, and each project must again be the subject of HRA, taking direction from the HRA work undertaken at the plan level. The tests to be met are the same at both the plan and project level, as is the rigor applied in meeting those tests. At the project level however, there is likely to be a greater level of detail and location specific evidence to draw upon. Where policies have been put in place at the plan level to protect European sites, divergence from them is likely to require additional evidence at the project level to demonstrate that divergence from policy will not adversely affect European sites.

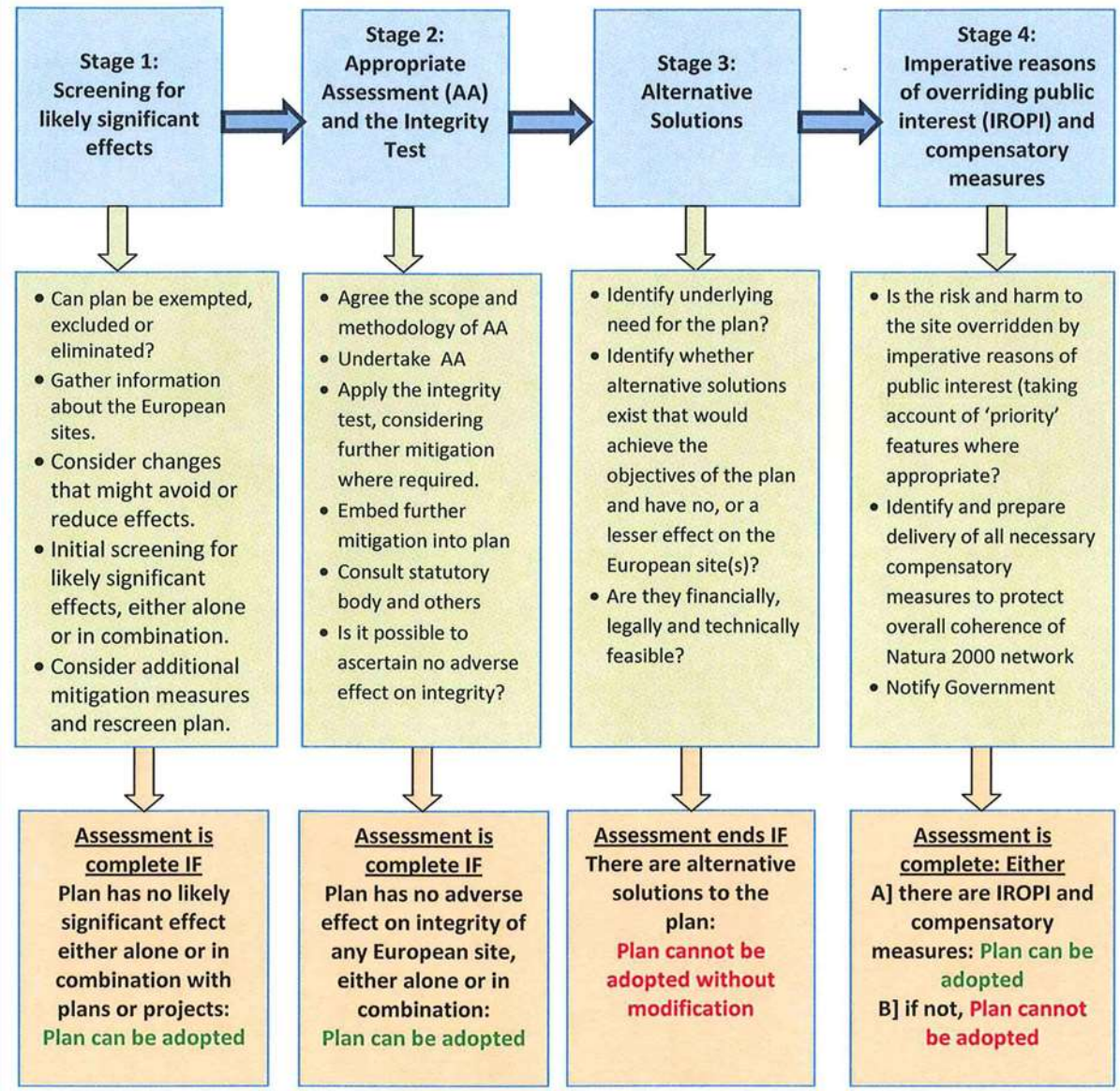

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Figure 2: Outline of the assessment of plans under the Habitat Regulations

12.17 In assessing the implications for European sites of any plan or project, research and evidence gathering underpinning the assessment usually consists of three types of information:

- The European sites
- The plan or project
- Potential impacts

12.18 In order to assess the implications of a plan or project for European sites, it is necessary to fully understand the European sites in question, to establish whether site features could potentially be affected.

12.19 It is also necessary to appreciate the purpose and objectives of the plan or project, to understand its constituent parts, how and when it will be implemented, and what may occur as a consequence of its implementation. A further evidence gathering requirement relates to any information that may assist with establishing and assessing the potential impacts that may occur. This may be locally specific information, or relevant evidence from elsewhere that can contribute to the understanding of potential impacts. This could include for example, studies on similar species, habitats or impacts in different locations, or the monitoring of mitigation approaches elsewhere that may be applicable. Previous HRA work that relates to the plan or project links with the evidence gathered on potential impacts, as previous assessment work will highlight what was previously considered a potential risk, and how such impacts were mitigated for.

12.20 Potential impacts are the link between the plan or project and the European sites. The HRA is assessing an 'interaction' between the plan or project, and the European site features. For this reason, the link is very often referred to as the 'impact pathway.' They are the route by which a plan or project may affect a European site (Figure 2).

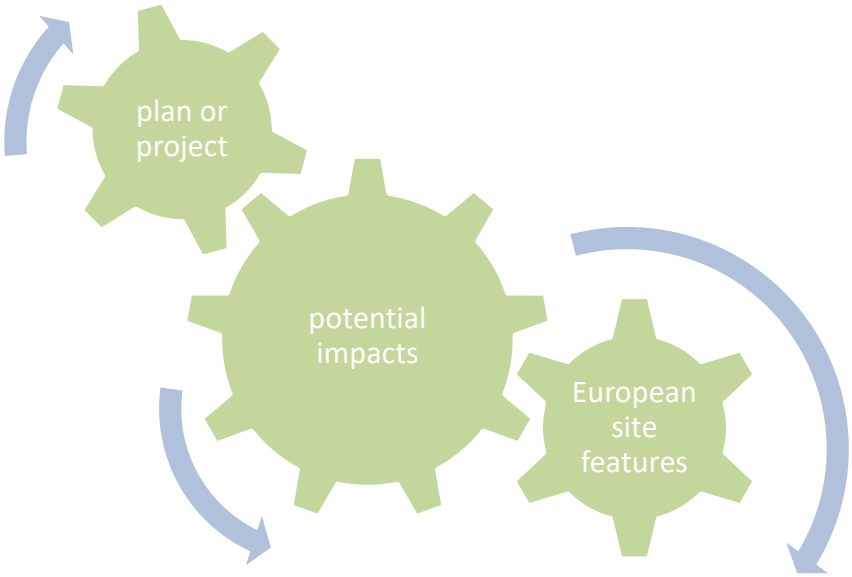

Figure 2: Impact Pathways

13. Appendix 2: Conservation Objectives

13.1 As required by the European 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 is progressing 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 were the first stage in the project to renew conservation objectives, and the second stage, which is to provide more detailed and site specific information for each site to support the generic objectives, is now underway. This site-specific information is referred to as 'Supplementary Advice.'

13.3 The new list of generic Conservation Objectives for each European site includes 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, providing the Supplementary Advice will underpin these generic objectives with much more site-specific information.

13.4 Whilst the Supplementary Advice has been prepared for some of the European sites, it is currently still not available for many of the sites. Once finalised, this site-specific detail will play an important role in informing future HRAs, giving greater clarity to what might constitute an adverse effect on a site interest feature.

13.5 In the interim, Natural England advises that HRAs 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.

13.6 For SPAs, the overarching objective is to:

13.7 '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.'

13.8 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.

13.9 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.'*

13.10 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.

13.11 This HRA therefore has regard for the generic SAC related objectives. Conservation objectives inform HRAs 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.

13.12 In seeking to give site specific context to the generic objectives in the absence of site specific supplementary advice, HRAs should have regard for the site-specific attributes that contribute to the maintenance of the site interest features. Where such attributes are or have historically declined in extent, quality or abundance, there is a need for restorative measures to enable the conservation objectives to be met. This should be recognised in any HRA, as the assessment should not only ensure that the plan or project does not detract from the maintenance of the site interest features, but rather it should also ensure that the plan or project does not obstruct or reduce the effectiveness of current or future measures to restore the site.

14. Appendix 3: European site interest features

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.

- 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.

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

Site	**Reason for designation**, * indicate a priority SAC feature
The Broads SAC	3140 Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. 3150 Natural eutrophic lakes with Magnopotamion or Hydrocharition- type vegetation 7140 Transition mires and quaking bogs 7210 Calcarious fens with Cladium mariscus and species of the Caricion davallianae * 7230 alkaline fens 91E0 Alluvial Forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae * **6410** Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) **–** ***qualifying feature but not a primary reason for site selection*** **1016** Desmoulin`s whorl snail **Vertigo moulinsiana** **1903** Fen orchid **Liparis loeselii** **4056** Ramshorn snail **Anisus vorticulus** **1355** Otter **Lutra lutra - *qualifying feature but not a primary reason for site selection***
Broadland SPA	**Article 4.1 qualification of breeding populations of:** A021 *Botaurus stellaris* A082 *Circus cyaneus* **Article 4.1 qualification of overwintering populations of:** A056 *Anas Clypeata* A050 *Anas Penelope* A081 *Circus aeruginosus* A037 *Cygnus columianus bewickii* A038 *Cygnus Cygnus* A151 *Philomachus pugnax* **Article 4.2 qualification (migratory species):** A051 *Anas Strepera*
Broadland Ramsar	**Data sheet does not break down into criterion, provides a general description to include:** Extensive peatlands, shallow lakes, large range of wetland types, wet grazing marsh, outstanding assemblage of breeding and wintering wetland birds and rare plants and invertebrates

Site	**Reason for designation**, * indicate a priority SAC feature
Breckland SAC	2330 Inland dunes with open *Corynephorus* and *Agrostis* grasslands 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition* - type vegetation 4030 European dry heaths 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (important orchid sites) 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) * - qualifying feature but not a primary reason for site selection 1166 Great crested newt *Triturus cristatus* - qualifying feature but not a primary reason for site selection
Breckland SPA	**Article 4.1 qualification of breeding populations of:** A133 *Burhinus oedicnemus* A224 *Caprimulgus europaeus* A246 L*ullula arborea*
The Wash and North Norfolk Coast SAC	**1110 Sandbanks which are slightly covered by sea water all the time** **1140 Mudflats and sandflats not covered by seawater at low tide** **1160 Large shallow inlets and bays** **1170 Reefs** **1310 *Salicornia* and other annuals colonizing mud and sand** **1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)** **1420 Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)** **1150 Coastal lagoons * - qualifying feature but not a primary reason for site selection** **1365 Harbour seal *Phoca vitulina*** **1355 Otter *Lutra lutra* - qualifying feature but not a primary reason for site selection**

Site	**Reason for designation**, * indicate a priority SAC feature
North Norfolk Coast SPA	**Article 4.1 qualification of breeding populations of:** A021 Botaurus stellaris A081 Circus aeruginosus A132 Recurvirostra avosetta A195 Sterna albifons A193 Sterna hirundo A191 Sterna sandvicensis **Article 4.1 qualification of overwintering populations of:** A132 Recurvirostra avosetta **Article 4.2 qualification (migratory species):** A050 Anas penelope A040 Anser brachyrhynchus A046a Branta bernicla bernicla A143 Calidris Canutus **Article 4.2 qualification (species assemblage):** 91536 waterfowl (5 year peak mean in 2008), including A040 *Anser brachyrhynchus*, A046a *Branta bernicla bernicla*, A050 *Anas penelope*, A132 *Recurvirostra avosetta*, A143 *Calidris Canutus*
North Norfolk Coast SAC	1150 Coastal lagoons * 1220 Perennial vegetation of stony banks 1420 Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi) 2110 Embryonic shifting dunes 2120 "Shifting dunes along the shoreline with Ammophila arenaria (""white dunes"")" 2130 Fixed coastal dunes with herbaceous vegetation (""grey dunes"") * 2190 Humid dune slacks 1355 Otter *Lutra lutra* - qualifying feature but not a primary reason for site selection 1395 Petalwort *Petalophyllum ralfsii*- qualifying feature but not a primary reason for site selection
North Norfolk Coast Ramsar	**Data sheet does not break down into criterion, provides a general description to include:** 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 Bufo calamita.

Site	**Reason for designation**, * indicate a priority SAC feature
The Wash SPA	**Article 4.1 qualification of breeding populations of:** A195 *Sterna albifrons* A193 *Sterna hirundo* **Article 4.1 qualification of overwintering populations of:** A037 *Cygnus columbianus bewickii* A157 *Limosa lapponica* **Article 4.2 qualification (migratory species):** A054 *Anas acuta* A050 *Anas penelope* A051 *Anas strepera* A040 *Anser brachyrhynchus* A169 *Arenaria interpres* A046a *Branta bernicla bernicla* A067 *Bucephala clangula* A144 *Calidris alba* A149 *Calidris alpina alpina* A143 *Calidris canutus* A130 *Haematopus ostralegus* A156 *Limosa limosa islandica* A065 *Melanitta nigra* A160 *Numenius arquata* A141 *Pluvialis squatarola* A048 *Tadorna tadorna* A162 *Tringa totanus* **Article 4.2 qualification (species assemblage):** 400367 waterfowl (5 year peak mean in 1998) including: *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 , Arenaria interpres*
The Wash Ramsar	**Data sheet does not break down into criterion, provides a general description to include:** Largest estuarine system in Britain, extensive saltmarshes, intertidal banks of sand and mud, shallow waters and deep channels. Overwintering and migratory wildfowl and wading birds, commercial fishery for shellfish, important nursery for flatfish, north sea's largest breeding population of common seal Phoca vitulina and some grey seal Halichoerus grypus. The sublittoral area supports marine communities including colonies of the reef-building polychaete worm Saballaria spinulosa.

Site	**Reason for designation**, * indicate a priority SAC feature
River Wensum SAC	**3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachio*n vegetation** **1092 white-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*** **1016** Desmoulin`s whorl snail ***Vertigo moulinsiana* - qualifying feature but not a primary reason for site selection** **1096 Brook lamprey *Lampetra planeri* - qualifying feature but not a primary reason for site selection** **1163 Bullhead *Cottus gobio* - qualifying feature but not a primary reason for site selection**
Ouse Washes SAC	1149 Spined loach *Cobitis taenia*

Site	Reason for designation, * indicate a priority SAC feature
Ouse Washes SPA	**Article 4.1 qualification of overwintering populations of:** A082 *Circus cyaneus* A037 *Cygnus columbianus bewickii* A038 *Cygnus Cygnus* A151 *Philomachus pugnax* **Article 4.2 qualification (migratory species - breeding):** A056 *Anas clypeata* A053 *Anas platyrhynchos* A055 *Anas querquedula* A051 *Anas strepera* A156a *Limosa limosa limosa* **Article 4.2 qualification (migratory species - overwintering):** A054 *Anas acuta* A056 Anas clypeata A052 *Anas crecca* A050 *Anas penelope* A051 *Anas strepera* A059 *Aythya ferina* A061 *Aythya fuligula* A036 *Cygnus olor* A125 *Fulica atra* A017 *Phalacrocorax carbo* **Article 4.2 qualification (species assemblage):** During the breeding season the area regularly supports: *Gallinago gallinago* , *Gallinula chloropus* , *Haematopus ostralegus* , *Tadorna tadorna* , *Tringa totanus* , *Vanellus vanellus* . Over winter the area regularly supports: *Phalacrocorax carbo , Cygnus columbianus bewickii, Cygnus cygnus , Anas penelope , Anas strepera , Anas crecca , Anas acuta , Anas clypeata , Aythya ferina , Aythya fuligula , Fulica atra , Philomachus pugnax* . 64428 waterfowl (5 year peak mean 01/04/1998) Including: *Phalacrocorax carbo , Cygnus columbianus bewickii , Cygnus cygnus , Anas penelope , Anas strepera , Anas crecca , Anas acuta , Anas clypeata , Aythya ferina , Aythya fuligula , Fulica atra , Philomachus pugnax* .
Ouse Washes Ramsar	**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.** **Criterion 2a – appreciable numbers of nationally rare plants and animals** **Criterion 5 - internationally important waterfowl assemblage** **Criterion 6 – internationally important overwintering bird populations**

Site	**Reason for designation**, * indicate a priority SAC feature
Waveney and Little Ouse Fens SAC	**6410 Molinia meadows on calcareous, peaty or clayet-silt-lade soils *Molinion caeruleae*** **7210 Calcareous fens with *cladium mariscus* and species of the *caricion davallianae* *** **1016** Desmoulin`s whorl snail ***Vertigo moulinsiana***
Redgrave and South Lopham Fen Ramsar	**Criterion 1 – extensive example of spring-fed lowland base-rich valley, remarkable for its lack of fragmentation** **Criterion 2 – Rare and scarce invertebrates, including fen raft spider *Dolomedes plantarius*** **Criterion 3 - Rare and scarce invertebrates, including fen raft spider *Dolomedes plantarius* and site diversity, due to the lateral and longitudinal zonation of the vegetation types characteristic of valley mires.**

15. Appendix 4: LSE Screening table

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
Introduction - text	Explaining the 'Publication' stage of plan making	LSE – issue relates to correct reference to Habitats regulations only		Ensure reference to the Habitats Regulations at paragraph 1.15 is up to date – Regulation 102 (not 85). Ensure that the Key Diagram is up to date with the latest SPA buffer zones	N/A	Text checked and recommendations now incorporated**.** **No further action required**	Update to Figure 1.1 corrects buffers relating to European site measures. No LSE
Introduction – Breckland's Spatial Vision	Achievements by the end of the plan period (2036) explained	LSE - Vision includes reference to natural assets, but supporting text sets out some of the key growth and infrastructure aspirations for the District, including those within specific policies and assessed below	Previous HRA work made reference to the need to re-check and update mitigation measures	Consider as part of the AA	Themes relating to roads (A11, A47 and NDR) and housing are part of the AA. Mitigation measures are considered as part of the AA themes, AEOI can only be ruled out with the incorporation of mitigation measures within the plan.	AA REQUIREMENTS UNDERTAKEN	No modifications of relevance to the HRA No LSE
Introduction – Strategic Objectives	Objectives that need to be met in order to achieve the Vision	LSE – The plan now has strong	Previous HRA work made reference to the	Consider as part of the AA	Themes relating to roads (A11, A47 and NDR) and	AA REQUIREMENTS UNDERTAKEN	No modifications of relevance to the HRA

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		wording here in relation to the natural environment, but the roads and new housing objectives need to be considered	need to re-check and update mitigation measures		housing are part of the AA. Mitigation measures are considered as part of the AA themes, AEOI can only be ruled out with the incorporation of mitigation measures within the plan.		No LSE
GEN 1 - Sustainable Development in Breckland	A general policy that describes what sustainable development is for the Breckland area, in accordance with principles of social, environmental and economic benefits	No LSE A very high level and general policy without any indication of the direction, quantum or nature of growth.	As previous	N/A	N/A	N/A	Modification is positive for the natural environment. No LSE
GEN2 – Promoting High Quality Design	Criteria for high quality development in relation to architecture, public realm, amenity and quality of life	Qualitative policy to improve quality of development proposals	No LSE - Qualitative	Policy not included in previous plan stages	N/A	N/A	No modifications of relevance to the HRA No LSE
GEN 3 – Settlement Hierarchy	The hierarchy of towns and villages for which	LSE – Residential growth risks impacts on	As previous – proceed to AA	Consider as part of the AA	Themes relating to housing are part of the AA. Mitigation	AA REQUIREMENTS UNDERTAKEN	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
	development will be supported	European sites and mitigation needs to be re-checked			measures are considered as part of the AA themes, AEOI can only be ruled out with the incorporation of mitigation measures within the plan.		
GEN4 – Development Requirements of Attleborough Strategic Urban Extension (SUE)	Vision and development requirements for the SUE and the specification of the master plan to be produced	LSE – Residential growth risks impacts on European sites and mitigation needs to be re-checked Masterplan spec includes HRA considerations – point 12 of policy	Vision not previously included	Consider as part of the AA	Themes relating to housing and water are part of the AA. Mitigation measures are considered as part of the AA themes, Masterplan will need HRA	Point 13 of the policy now amended to require the information from the developer necessary to inform the Council's project level HRA and ensure recreation is considered. AA REQUIREMENTS FOR WATER UNDERTAKEN	No modifications of relevance to the HRA. Minor changes to text, housing numbers, site size and map do not alter overall HRA conclusions. No LSE
Vision for Thetford and TAAP policies	Vison for the town by the end of the plan period in 2036. TAAP policies will be rolled forward	No LSE - All TAAP policies have been the subject of HRA for that plan. TAAP policies to be lost are adequately	Vision not previously included	The polices on Thetford are saved policies, developed with HRA, therefore no further requirements for the Local Plan.	N/A NB – Thetford SUE has outline permission but S106 not yet agreed, partly due to outstanding mitigation	Council now developing a working group to consider the outcome of the visitor pressure study and collectively to	Confirmation of TAAP policies continuing to form part of the Local Plan is supportive of HRA requirements. No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		replaced. A key mitigation measure is the restoration and maintenance of the urban heaths in and around Thetford. Also, Norfolk visitor work highlights need to consider scale of change in recreation at sensitive sites from Thetford.		However, the Council needs to progress mitigation measures in relation to recreation pressure.	requirements for Breckland SPA N/A	consider ways in which to adopt a more coordinated approach to management and mitigation delivery. Mitigation progress should form part of Local Plan monitoring.	
GEN5 – Settlement Boundaries	Presumption is that development proposals within settlement boundaries are acceptable if compliant with policy, outside these, development is only acceptable if it meets key criteria	LSE	Policy not included in previous plan stages	Add in Policy ENV 3 to the list of key policies. Whilst all environmental policies must be adhered to, ENV 3 is critical and relevant when a proposal is outside a settlement.	None – text modifications only to screen out LSE	Policy checked and recommendations now incorporated**. No further action required**	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
HOU 01 – Development requirements, minimum	Sets the overall target for new housing over the plan period at 15,300 new homes between 2012 and 2036. This equates to 612 dwellings per annum.	LSE – Update to the SHMA in 2017 now means the plan sets a housing target of 15,300 new homes up to 2036. Need to ensure robustness of mitigation measures	Previous HRA work made reference to the need to re-check and update mitigation measures	Consider as part of the AA	Themes relating to housing are part of the AA. Mitigation measures are considered as part of the AA themes, AEOI can only be ruled out with the incorporation of mitigation measures within the plan.	AA REQUIREMENTS UNDERTAKEN	No modifications of relevance to the HRA No LSE
HOU 02 – Level and location of growth	Additional dwellings targets for each settlement	LSE – the housing development options were considered in previous HRA. Allocations are in line with previous HRA findings, therefore no specific LSE in relation to individual allocations, but need to ensure robustness of	Previous HRA work made reference to the need to re-check and update mitigation measures	Consider as part of the AA	Themes relating to housing are part of the AA. Mitigation measures are considered as part of the AA themes, AEOI can only be ruled out with the incorporation of mitigation measures within the plan.	AA REQUIREMENTS UNDERTAKEN	Modifications to housing numbers are relatively minor, rising from 15,950 to 16, 630 over the plan period (as a result of permissions in the interim during plan preparation). Not a significant consequence for the HRA and ENV2 applies to all development coming forward. ENV3 will continue to provide a

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		mitigation measures					monitoring mechanism for residential growth over the plan period. No LSE
HOU 03 – Development outside of the boundaries of local service centres	Criteria for the consideration of development outside local service centre boundaries	LSE – Qualitative policy but could lead to growth in close proximity to Breckland SPA. Criteria does not refer to SPA buffers.	Policy not included in previous plan stages	Policy or supporting text needs to make clear that there are risks to Breckland SPA and that the policy does not support development outside settlement boundaries within the 1500m buffer zone. Outside this, there may be a need for project level HRA to ensure that there any effects on functionally linked land can be effectively mitigated for.	N/A	Policy was amended to add clause 'subject to being supported by other policies in the Local Plan' – this ensures that development must conform to policies ENV 2 and ENV 03 which protect designated sites and apply restrictions to Stone Curlew buffer. **No further action required.**	No modifications of relevance to the HRA No LSE
HOU 04 - Rural settlements with boundaries	Describes rural settlements with boundaries, for which development	LSE – some of the listed settlements are in close	Policy not included in previous plan stages	Policy or supporting text needs to make clear that there are	N/A	Policy was amended to add clause 'subject to being supported by	Modifications will enable more housing on each site in these

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
	immediately adjacent to the boundary may be permitted.	proximity to Breckland SPA. Criteria does not refer to SPA buffers.		risks to Breckland SPA and that the policy does not support development outside settlement boundaries within the 1500m buffer zone. Outside this, there may be a need for project level HRA to ensure that there any effects on functionally linked land can be effectively mitigated for.		other policies in the Local Plan' – this ensures that development must conform to policies ENV 2 and ENV 03 which protect designated sites and apply restrictions to Stone Curlew buffer. **No further action required.**	settlements, but as growth cannot significantly exceed the 5% growth limit, development is likely to be relatively limited, and ENV2 remains applicable. Modifications concluded to not be No LSE.
HOU 05 – Small villages and hamlets outside of settlement boundaries	Describes small villages and hamlets, for which development may be permitted.	LSE – some villages and hamlets are in close proximity to Breckland SPA. Criteria does not refer to SPA buffers.	Similar Policy in previous plan stages, but current wording now poses a clearer risk in relation to adding to build development.	Policy or supporting text needs to make clear that there are risks to Breckland SPA and that the policy does not support development outside settlement boundaries within the 1500m buffer zone. Outside this, there may be a	N/A	Policy was amended to add clause 'subject to being supported by other policies in the Local Plan' – this ensures that development must conform to policies ENV 2 and ENV 03 which protect designated sites and apply restrictions to	Modifications have removed the upper limit of housing numbers in these settlements, but restrictive criteria remain, to ensure an appropriate scale of development. ENV2 remains applicable. Modifications

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
				need for project level HRA to ensure that there any effects on functionally linked land can be effectively mitigated for.		Stone Curlew buffer. **No further action required.**	concluded to not be No LSE
HOU 06 – Principle of new housing	Qualitative policy describing development needs in terms of density, parking and type of housing for the District	No LSE - Qualitative	Policy not included in previous plan stages	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
HOU 07 – affordable housing	Criteria to be set for provision of affordable housing as mart of new residential development	No LSE The proportion of affordable housing does not affect the potential impact of housing per se. Need for mitigation to protect European sites is based on location and levels of housing, and	It was previously suggested that although screened as no LSE, it would be beneficial for supporting text to refer to the need for affordable housing to meet all mitigation requirements for European sites, which are applicable to all housing types, even if exempt	Recommendation still stands, not currently added to the supporting text.	N/A	Reference to Habitats Regulations requirements and need for mitigation now added in para 3.53 of the supporting text for the policy. **No further action required.**	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		where required will apply to all housing types.	from paying any other levy.				
HOU 08 – Provision for travellers and travelling show-people	Supports the provision of plots and pitches for gypsies, travellers and travelling show-people	LSE – project applicants need to be aware of the need for avoidance and mitigation requirements for European sites in the same way that residential housing is considered	Policy was previously qualitative, now includes quantum of pitches	Add further detail to supporting text to identify that residential housing mitigation requirements for European sites are applicable to of plots and pitches for gypsies, travellers and travelling show-people	N/A	Supporting text amended to include reference to the requirements for European site mitigation in line with residential housing. **No further action required.**	No modifications of relevance to the HRA No LSE
HOU 09 – Specialist housing	Qualitative policy encouraging good quality housing for older residents	No LSE - Qualitative	Policy not included in previous plan stages	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
HOU 10 – Technical design standards for new homes	Qualitative policy to improve quality of housing proposals	No LSE - Qualitative	Policy not included in previous plan stages	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
HOU 11) – Residential replacement, extension and alteration	Criteria for residential replacement, extension and alteration	No LSE Policy does not promote growth in any particular location.	Need for mitigation to protect European sites is based on location and levels of housing, and	No LSE but would be beneficial for supporting text to note the potential need for project level HRA in	N/A	Reference to Habitats Regulations requirements and need for mitigation now added in para	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Criteria based policy only, Need for mitigation to protect European sites is based on location and levels of housing, and where required will apply to all housing types.	where required will apply to all housing types.	Breckland SPA buffer zones – possibility of additional impacts from increased built development.		3.99 of the supporting text for the policy. **No further action required.**	
HOU 12 – Conversion of buildings in the countryside	Criteria for allowing conversion	No LSE – criteria includes reference to Habitats Regulations	Now has specific reference to Habitats Regulations, recognising potential for increased building footprint as a result of conversion	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
HOU 13 – Agricultural worker's exceptions	Criteria for allowing agricultural worker exceptions for housing	LSE – although qualitative, new buildings in the countryside where there are no previous	Previously recommended additions to supporting text, but now strengthened policies ENV2 and ENV3 provide	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		buildings pose greatest risk to Stone Curlew – Breckland SPA	adequate protection.				
HOU 14 - Affordable housing exceptions	Criteria for allowing affordable housing exceptions for rural housing	LSE – although qualitative, new buildings in the countryside where there are no previous buildings pose greatest risk to Stone Curlew – Breckland SPA	Previously recommended additions to supporting text, but now strengthened policies ENV2 and ENV3 provide adequate protection.	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
Housing allocations	Specific site allocations for settlements. All site allocations assessed as part of Preferred Site options and Settlement Boundaries HRA.	LSE - Need to ensure that all allocations have appropriate text with regard to the mitigation requirements. This should not be a simple repeat at each allocation, but	Previous HRA work made reference to the need to re-check and update mitigation measures	Change pre-development enquiry to pre-application enquiry for policy wording for all allocations re water issues. Key mitigation themes are – Recreation disturbance to SPA birds	AA considers mitigation suitability for all impact themes	AA REQUIREMENTS UNDERTAKEN	See below re specific allocations.

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		rather at an appropriate point in the plan there is a clear reference to the list of key mitigation themes, and the locations where each is relevant.		Urbanisation effects on SAC and SPA habitats Stone curlew buffer for impacts of built development Additional measures in sensitive areas of focussed growth (Thetford, Swaffham, Mundford).			
Dereham allocations	Allocation descriptions, reference numbers and map	LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA. Outstanding issues in relation to waste water treatment	Dereham previously identified as having water quality risks from additional development	Identify within policy text the need for solutions to be implemented for Dereham to prevent breach of headroom at WWTW, and that development will only come forward where water quality risks can be prevented, demonstrated through the Council's work with relevant bodies and project level HRA.	AA to look at water cycle study update	All Dereham policies now contain clauses on pre-app enquiries with Anglian Water regarding capacity for wastewater treatment **No further action required.**	Previous conclusions and recommendations apply. Modifications do not raise any new concerns, and include previous recommendations relating to waste water from the AA. Additional modifications (23, 26) in relation to clarity on project level HRA

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
							requirements is protective. Can therefore now conclude No LSE.
Swaffham allocations	Allocation descriptions, reference numbers and map	LSE – All 6 allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA as being within 1500m and 3km from the SPA where survey data is lacking. Also, Norfolk visitor work highlights need to consider scale of change in recreation at sensitive sites from Swaffham	Need for project level HRA – there is the potential for these sites to not be able to rule out AEOI if mitigation cannot be secured for impacts on functionally linked land for stone curlew	The policy includes reference to the need for project level HRA. It is recommended that the supporting text for the Swaffham allocations should make clear that there is a LSE due to lack of data, and there will be a need for project level HRA, which may require new survey work. This needs to be planned for as it may delay consideration of the planning application.	Consider data needs within recreation theme of AA Consider recreation risks under recreation theme within AA	Text checked and recommendations now incorporated**. No further action required**	Previous conclusions and recommendations apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Watton allocations	Allocation descriptions,	LSE - Both allocations north of	Previously assessed sites within 1500m	Text already explains why allocations to the	Consider data needs within	Text checked and recommendations now incorporated**.**	Previous conclusions and recommendations

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
	reference numbers and map	Norwich road and therefore outside the 1500m buffer but within 1500m and 3km from the SPA where survey data is lacking.	buffer for which LSE cannot be ruled out (therefore posing a risk to Breckland SPA) were previously identified and now not included	south of the town are not included. The policy includes reference to the need for project level HRA. It is recommended that the supporting text for the Watton allocations should make clear that there is a LSE due to lack of data, and there will be a need for project level HRA, which may require new survey work. This needs to be planned for as it may delay consideration of the planning application.	recreation theme of AA	**No further action required**	apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Ashill allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Boundaries HRA					water and modifications do not alter the protective nature of the text. No LSE.
Banham allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA. New sites (LP[003]012 and LP[003]009) not previously assessed now checked.	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Bawdeswell allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Boundaries HRA					relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Garboldisham allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Great Ellingham settlement boundary	Explains no further allocations as growth required already approved	No LSE	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
Harling allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Options and Settlement Boundaries HRA					include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Hockering allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Kenninghall allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Boundaries HRA					relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Litcham settlement boundary	Explanation of no suitable sites, therefore no allocations	No LSE	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
Mattishall Allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
Narborough Allocation	Allocation description, reference number and map	LSE – The allocation assessed as part of Preferred Site Options and Settlement Boundaries HRA as being within 1500m and 3km from	Need for project level HRA – there is the potential for these sites to not be able to rule out AEOI if mitigation cannot be secured for impacts on functionally linked land for stone curlew	The policy includes reference to the need for project level HRA. It is recommended that the supporting text for the Narborough allocations should make clear that there is a LSE due to lack of data, and	Consider data needs within recreation theme of AA	Text checked and recommendations now incorporated**. No further action required**	Previous conclusions and recommendations apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		the SPA where survey data is lacking.		there will be a need for project level HRA, which may require new survey work. This needs to be planned for as it may delay consideration of the planning application.			modifications do not alter the protective nature of the text. No LSE.
Necton allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
North Elmham Allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Boundaries HRA					relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Old Buckingham allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Shipdham preferred and alternative sites	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
							modifications do not alter the protective nature of the text. No LSE.
Sporle allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the protective nature of the text. No LSE.
Swanton Morley allocations	Allocation descriptions, reference numbers and map	No LSE - Allocations assessed as part of Preferred Site Options and Settlement Boundaries HRA	N/A	N/A	N/A	N/A	Previous conclusions apply. Modifications do not raise any new concerns. They include recommendations relating to waste water and modifications do not alter the

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
							protective nature of the text. No LSE.
Weeting Settlement boundary	Explains that no allocations are being taken forward due to the 1500m Breckland SPA buffer	No LSE – has full regard for previous HRA work and evidence base	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
TR 01 – Sustainable Transport Network	Describes policy led approach to improving and maintaining an effective transport network, including road improvements and more sustainable transport forms	LSE – Part a) of the policy refers to road improvements to the A11 and A47. A11 dualling compete but some work proposed as part of Thetford SUE A47 dualling LSE dependant on location. Small part of Breckland SPA in close proximity (nightjar and woodlark) – risks to Stone	Policy previously included and considered at AA	The supporting text at 4.3 refers to dualling proposals and should be expanded to include reference to the need for early evidence gathering in relation to the SPA interest, in order to inform appraisal of options and project design. The text should also make explicit that no road improvements are to be promoted within 200m of Breckland SAC, and within 1500m of Breckland SPA,	Additional road traffic considered in AA	A new paragraph within supporting text at 4.5 has been added, making clear that there is a need for schemes to undertake early evidence gathering to inform HRA. Requirements now clear - **No further action required**	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		Curlew functionally linked land. Consideration also needs to be given to additional road traffic from development		which accords with previous Core Strategy HRA recommendations.			
TR 02 – Transport requirements for Major Developments	Describes requirements for road improvements necessary as a result of new development proposals	No LSE – does not promote improvements to roads, qualitative criteria where such improvements are required	Policy not included in previous plan stages	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE
ENV 01 – Green Infrastructure	Environmentally positive and beneficial policy for green infrastructure enhancement	LSE - Previous HRA work identified that the Thetford Urban Heaths are under significant recreation pressure and strategic action for these heaths was required.	A mitigation area yet to be progressed	Text should recognise the potential need for additional green infrastructure/open space as part of a suite of measures to prevent additional recreation pressure for development at Thetford, Swaffam and Mundford) and	Mitigation progression discussed in AA	Supporting text checked and now has the suggested text incorporated at 5.12**. No further action required**	No modifications of relevance to the HRA, positive changes for the natural environment. No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		The Thetford Area Action Plan contains policy wording relating to such mitigation and these measures have not been progressed. Also, Norfolk visitor work highlights need to consider scale of change in recreation at sensitive sites from Thetford, Swaffam and Mundford		urban effects on sensitive heathland sites (Thetford sites - Barnham Cross Common, Thetford Heath, Thetford Golf Club and Marsh, and at East Wretham and Brettenham)			
ENV 02 – Sites of International, European, National and Local Nature Conservation Importance	Biodiversity protection and enhancement	LSE – a protective policy, but wording requires strengthening	Previous recommendations, but now requires further strengthening in light of current plan	N/A	Recommendations discussed in AA	This HRA report and detailed discussions with planning officers provided recommendations for policies ENV2 and ENV3. These have now been fully incorporated,	See appropriate assessment discussion in relation to Examination. Modifications proposed reflect agreed changes to strengthen and give clarity in

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
						providing strong and clearly explained policy protection for European sites and the approach to Breckland SPA. **No further action required**	relation to European site requirements. With modifications in place, as detailed in AA, now able to conclude No LSE.
ENV 03 – The Brecks Protected Habitats and Species NB - recommendations include title to read Breckland SPA	Breckland SPA protection and enhancement	LSE – a protective policy, but wording requires strengthening	Previous recommendations, but now requires further strengthening in light of current plan	N/A	Recommendations discussed in AA	This HRA report and detailed discussions with planning officers provided recommendations for policies ENV2 and ENV3. These have now been fully incorporated, providing strong and clearly explained policy protection for European sites and the approach to Breckland SPA. **No further action required**	See appropriate assessment discussion in relation to Examination. Modifications proposed reflect agreed changes to strengthen and give clarity in relation to European site requirements. With modifications in place, as detailed in AA, now able to conclude No LSE.

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
ENV 04 – Open Space, Sport and Recreation	Environmentally positive and beneficial policy for open space	LSE - Previous HRA work identified that the Thetford Urban Heaths are under significant recreation pressure and strategic action for these heaths was required. The Thetford Area Action Plan contains policy wording relating to such mitigation and these measures have not been progressed. Also, Norfolk visitor work highlights need to consider scale of change in recreation at sensitive sites	A mitigation area yet to be progressed	Text should recognise the potential need for additional green infrastructure/open space as part of a suite of measures to prevent additional recreation pressure for development at Thetford, Swaffam and Mundford and urban effects on sensitive heathland sites (Thetford sites - Barnham Cross Common, Thetford Heath, Thetford Golf Club and Marsh, and at East Wretham and Brettenham)	Mitigation progression discussed in AA	Supporting text now recognises the potential need for additional green infrastructure/open space at Thetford, Swaffam and Mundford. **No further action required**	Modifications do not pose any additional risks, and include positive wording in relation to enhancing green infrastructure for biodiversity. No LSE.

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
		from Thetford, Swaffam and Mundford					
Local Greenspace Designations	New Local Greenspace designations in accordance with the NPPF	No LSE	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
ENV 05 – Protection and enhancement of the landscape	Environmentally positive and protective policy for landscape	No LSE	N/A	N/A	N/A	N/A	Modifications do not pose any risks to European sites, and include positive wording in relation to enhancing The Brecks landscape and river valleys. No LSE.
ENV 06 – Trees, Hedgerows and Development	Environmentally positive and protective policy for trees and hedges	No LSE	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
ENV 07 – Designated Heritage Assets	Environmentally positive and protective policy for heritage assets	No LSE	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
ENV 08 – Non-statutory heritage assets	Environmentally positive and protective policy for heritage assets	No LSE	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
ENV 09 - Flood risk and surface water drainage	Requires adequate flood and drainage provision	LSE – water and flooding risks to be checked	WCS and FRMP updates needed to be checked	N/A	Considered under water theme of AA	AA REQUIREMENTS UNDERTAKEN	Modifications do not pose any additional risks to European sites, and include positive wording in relation flood risk assessment and securing greenfield run off rates. No LSE.
ENV 10 – Renewable energy development	Criteria for renewable energy development consideration	No LSE – whilst potentially poses a risk, policy has protective wording	N/A	N/A	N/A Project level HRA may be required	N/A	Modifications include new supporting text that is protective in addressing adverse effects generally, and promotes biodiversity enhancements. Policy wording also gives additional reference to relevant environmental policies. No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
EC 01 – Economic development	Level and locations of employment land required in settlements	No LSE – previously assessed in previous HRAs	N/A	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE
Employment allocations	Maps, references and descriptions of allocations for employment	LSE – Attleborough allocation poses some risk in terms of air quality (new link road) –water quality and run off – Norfolk Valley Fens	Preferred Directions HRA advises on need to recheck as EIA progresses	N/A	EIA progress needs to be checked Norfolk Valley Fens water issues considered in AA	AA REQUIREMENTS UNDERTAKEN	No modifications of relevance to the HRA No LSE
Saved employment allocations	Maps, references and descriptions of previously allocated and now saved allocations for employment	LSE – previously assessed as part of Site Specific Policies and Proposals HRA	Preferred Directions HRA advises on potential water quality issues re Dereham and Attleborough	N/A	Norfolk Valley Fens water issues considered in AA	AA REQUIREMENTS UNDERTAKEN	No modifications of relevance to the HRA No LSE
EC 02 Snetterton Heath	Specific development requirements for Snetterton Heath – an existing mixed-use employment site	No LSE – previously assessed in previous HRAs	N/A	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE
EC 03 – General employment areas	Existing employment areas protected	No LSE – locations unlikely to pose a risk	As previous	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
EC 04 – Employment development outside general employment areas	Criteria for allowing employment development outside general employment areas	LSE – Additional built development within 1500m of Breckland SPA needs clarification	Policy previously included but specific reference to replacement buildings requires further protective wording	Add policy or supporting text to refer to 1500m buffer	N/A	Supporting text checked and now has the suggested text incorporated at a new para 6.72. **No further action required**	No modifications of relevance to the HRA No LSE
EC 05 – Town centre and retail strategy	Retail space requirements	No LSE – locations within town centres unlikely to pose a risk	N/A	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE
EC 06 – Farm diversification	Criteria for allowing farm diversification	No LSE - qualitative	Previous recommendation to add natural environment into policy wording not yet undertaken	Would be beneficial to add 'biodiversity' or 'natural environment' in to point f) of the policy	N/A	N/A	No modifications of relevance to the HRA No LSE
EC 07 – Tourism related development	Criteria for tourism development	No LSE – Tourism could add pressure on European sites, but text included in supporting text for assessment	Previous recommendation to add references to risks to European sites now undertaken	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
EC 08 – Advertising and signs	Criteria for signs	No LSE – does not pose any risk	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
COM 01 – Design	Criteria for good quality design	No LSE - qualitative	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
COM 02 – Healthy lifestyles	Criteria for encouraging healthy lifestyles	No LSE - qualitative	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
COM 03 - Protection of amenity	Criteria for amenity protection	No LSE - qualitative	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
COM 04 – Community facilities	Criteria for improving community facilities	No LSE - qualitative	N/A	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE
INF 01 - Infrastructure	Criteria for telecomms facilities	No LSE - qualitative	N/A	N/A	N/A Project level HRA may be required	N/A	No modifications of relevance to the HRA No LSE
INF 02 – developer contributions	Types of infrastructure for which contributions may be sought	No LSE – reference made to need for biodiversity related infrastructure	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE

Plan section and policy	Description	LSE screening	Notes in relation to previous HRA recommendations	Current recommendations for modifications to plan text	Requirements for AA	Update at Publication stage	Main Modifications
Implementation strategy	Costs of implementation	No LSE – informative, financial	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE
Appendices	Further information to inform reading of the plan	No LSE – informative only	N/A	N/A	N/A	N/A	No modifications of relevance to the HRA No LSE