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# **Habitats Regulations Assessment Screening of Basildon Borough Local Plan Core Strategy Revised Preferred Options**

**Prepared for Basildon Borough Council**

Prepared by LUC  
January 2014

**Project Title:** HRA Screening of Basildon Local Plan Core Strategy Revised Preferred Options

**Client:** Basildon Borough Council

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Planning & EIA  
Design  
Landscape Planning  
Landscape Management  
Ecology  
Mapping & Visualisation

LUC LONDON  
43 Chalton Street  
London NW1 1JD  
T 020 7383 5784  
F 020 7383 4798  
[london@landuse.co.uk](mailto:london@landuse.co.uk)

Offices also in:  
Bristol  
Glasgow  
Edinburgh



FS 566056  
EMS 566057

Land Use Consultants Ltd  
Registered in England  
Registered number: 2549296  
Registered Office:  
43 Chalton Street  
London NW1 1JD

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# 1 Introduction

## Introduction

- 1.1 Basildon Borough Council is preparing a Local Plan to replace the saved policies in the 1998 Basildon District Local Plan document and to set out an overall framework for the development of the Borough up to 2031. The Local Plan (previously known as the Local Development Framework or LDF) will be brought forward in at least three separate planning policy documents:
- Local Plan Core Strategy.
  - Local Plan Site Allocations and Development Management Policies.
  - Local Plan Gypsy, Traveller and Travelling Showpeople Policies.
- 1.2 The emerging Local Plan Core Strategy contains a borough-wide strategy to coordinate development until 2031. It sets out the Council's Spatial Vision and Strategic Objectives and a Spatial Strategy and Strategic Policies seek to deliver these.
- 1.3 A Core Strategy Preferred Options Report was published for consultation in February 2012. A significant number of consultation responses were received, raising concerns relating to the scale of growth proposed and the soundness of the preferred option. Following a resolution of Cabinet on 8<sup>th</sup> November 2012 to formally acknowledge the representations made, it was approved that the Core Strategy be revised and informed by a more robust and expanded evidence base. The Council has now prepared the Revised Preferred Options version of the Core Strategy.
- 1.4 **LUC has been commissioned by Basildon Borough Council ('the Council') to carry out a Habitats Regulations Assessment (HRA) of the Core Strategy Revised Preferred Options which will be published for consultation during January-March 2014. Further consultation will be carried out on the Publication version of the Core Strategy in the Summer of 2014, before submission of the Plan to the Secretary of State in Autumn 2014 and eventual adoption of the Plan in Summer 2015.**
- 1.5 The purpose of this HRA is first to carry out HRA Screening to determine whether the emerging Core Strategy will result in likely significant effects on any designated European biodiversity site, either alone or in-combination with other plans and projects. A more detailed stage of **'Appropriate Assessment' then considers whether any of the likely significant effects which could not be ruled out may have an adverse effect on the integrity of a European site.**

## The requirement to undertake HRA of development plans

- 1.6 The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007 and updated in 2010<sup>1</sup>. Therefore, when preparing the Core Strategy, Basildon Borough Council is required by law to carry out a Habitat Regulations Assessment.
- 1.7 The HRA refers to the assessment of the potential effects of a development plan on one or more European sites or European offshore marine sites, either alone or in combination with other with other plans or projects.
- 1.8 In the context of HRA of plans or projects, the Habitats Regulations define a **'European site'** as:
- A Special Area of Conservation (SAC). SACs are designated under the EC Habitats Directive, more formally known as Council Directive 92/43/EEC on the Conservation of natural habitats

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<sup>1</sup> The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. HMSO Statutory Instrument 2007 No. 1843. From 1 April 2010, these were consolidated and replaced by the Conservation of Habitats and Species Regulations 2010 (SI No. 2010/490). Note that no substantive changes to existing policies or procedures have been made in the new version.

and of wild fauna and flora. SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive.

- A Special Protection Area (SPA). SPAs are classified by the UK Government under the EC Birds Directive, more formally known as Council Directive 2009/147/EC on the conservation of wild birds. SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.
- A Site of Community Importance (SCI). SCIs are sites which have been adopted by the EC, but not yet formally designated by governments of Member States. This includes sites proposed by the EC as eligible for identification as a SCI.

- 1.9 The government also expects possible SACs (pSACs), potential SPAs (pSPAs), listed or proposed Ramsar sites and sites identified, or required, as compensatory measures for adverse effects on any of these sites to be included within HRA of plans or projects<sup>2</sup>. Ramsar sites are wetlands of international importance designated under the Ramsar Convention, 1971. The initial emphasis was on selecting sites of importance to waterbirds within the UK, and consequently many Ramsar sites are also Special Protection Areas (SPAs) classified under the Birds Directive. However, non-bird features are increasingly taken into account in the selection of new sites and review of existing ones.
- 1.10 For ease of reference during HRA, all of the designations above are collectively referred to as European sites, despite Ramsar designations being at the international level.
- 1.11 The overall purpose of the HRA is to conclude whether or not a proposal or policy, or the whole development plan would adversely affect the integrity of the European site in question. This is **judged in terms of the implications of the plan for a site's 'qualifying features'** (i.e. those Annex I habitats, Annex II species, Annex I bird populations or Ramsar criteria for which it has been designated). Significantly, HRA is based on a rigorous application of the precautionary principle; where uncertainty or doubt remains, an adverse impact should be assumed.

## Structure of the HRA report

- 1.12 This chapter has introduced the requirement to undertake HRA for the Basildon Borough Local Plan Core Strategy. The remainder of the report is structured into the following chapters:
- Chapter 2: **HRA method** sets out the approach used and the specific tasks undertaken during the HRA and reviews consultation responses received on HRA for earlier versions of the Core Strategy.
  - Chapter 3: **HRA Screening stage** identifies and characterises the European sites falling within the scope of the HRA; considers other plans and projects for potential in-combination effects with the Core Strategy; describes and screens each Core Strategy policy and concludes whether likely significant effects can be ruled out.
  - Chapter 4: **Appropriate Assessment stage** considers whether any likely significant effects which could not be ruled out may have an adverse effect on the integrity of a European site.
  - Chapter 5: **Conclusions** summarises the findings of the HRA and summarises recommendations made throughout the assessment.
  - Appendices: Provide detailed characterisations of European sites and the review of other plans and projects.

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<sup>2</sup> NPPF paragraph 118

## 2 HRA method

- 2.1 The HRA for the Basildon Borough Local Plan Core Strategy Revised Preferred Options has been undertaken in line with current available guidance and good practice<sup>3,4,5,6,7</sup> and seeks to meet the requirements of the Habitats Regulations.

### Stages of HRA

- 2.2 **Table 2.1** summarises the stages involved in carrying out a full HRA.

**Table 2.1 Stages in HRA**

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

- 2.3 It is normally anticipated that an emphasis on Stages 1 and 2 of this process will, through a series of iterations, help ensure that potential adverse effects are identified and eliminated through the inclusion of mitigation measures designed to avoid, reduce or abate effects. The need to consider alternatives could imply more onerous changes to a plan document. It is generally understood

<sup>3</sup> The Habitats and Wild Birds Directives in England and its seas: Core guidance for developers, regulators & land/marine managers (draft for public consultation), Defra, December 2012.

<sup>4</sup> Assessment of plans and projects significantly affecting European Sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. European Commission Environment DG, November 2001.

<sup>5</sup> Planning for the Protection of European Sites. Guidance for Regional Spatial Strategies and Local Development Documents. Department for Communities and Local Government (DCLG), August 2006.

<sup>6</sup> The Appropriate Assessment of Spatial Plans in England. A guide to why, when and how to do it. RSPB, August 2007.

<sup>7</sup> The Habitats Regulations Assessment of Regional Spatial Strategies and Sub-Regional Strategies. David Tyldesley and Associates, 2007.

that so called 'imperative reasons of overriding public interest' (IROPI) are likely to be justified only very occasionally and would involve engagement with both the Government and European Commission.

- 2.4 The HRA should be undertaken by the 'competent authority', in this case Basildon Borough Council, and LUC has been commissioned to do this on the Council's behalf.

## Stage 1: Screening

- 2.5 The purpose of the HRA Screening is to determine whether the Core Strategy Revised Preferred Options will result in **likely significant effects** on any designated European biodiversity site, either alone or in-combination with other plans and projects. In this context:
- An effect should be considered '**likely**' *"if it cannot be excluded on the basis of objective information that it will have a significant effect on the site"*<sup>8</sup>. In other words, the precautionary principle is applied such that if likely significant effects cannot be objectively ruled out, then they should be assumed to exist. However, the precautionary approach needs to be applied in a proportionate manner and there should be *"credible evidence that there was a real, rather than a hypothetical, risk"*<sup>9</sup>.
  - An effect should be considered '**significant**' if it *"undermines the conservation objectives"*<sup>10</sup> of a European site. Natural England has defined conservation objectives for SACs and SPAs and the assessment of whether an effect of the development plan is likely to undermine them is made in light of information on the designated interest features of European sites and their vulnerabilities.
- 2.6 The tasks carried out as part of the HRA Screening are outlined below and the results are presented in **Chapter 3**.

### Identification of European sites and factors contributing to their integrity

- 2.7 An initial investigation was undertaken to identify European sites within or adjacent to the Basildon Borough boundary which may be affected by the Core Strategy. In order to identify all European sites where impacts could reasonably be considered possible, a search was conducted (using Geographical Information Systems, GIS) for sites lying partially or wholly within 15 km from the Borough boundary (see **Figure 3.1**). This distance is consistent with standard practice and has been considered reasonable by Natural England in other local authority HRAs. A number of additional European sites beyond the 15 km buffer for which a pathway for potential effects exists were also identified.

### Review of other plans and projects for potential 'in-combination' effects

- 2.8 Regulation 102 of the Habitats Regulations 2010<sup>11</sup> requires an **Appropriate Assessment of 'any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plan or projects'**. The first stage in identifying 'in-combination' effects therefore involved identifying which other plans and projects may affect the European sites within the scope of the HRA.
- 2.9 There are a large number of plan and strategy documents which could be considered. The review has focused on those which are capable of providing for new development and has excluded those which are restricted to setting out visions or which co-ordinate development that is provided for by other plans. These include strategic Local Plan / Core Strategies for all of the local authorities bordering Basildon Borough plus those within 15 km from the Borough boundary which lie adjacent to European sites within the scope of the HRA; Minerals Waste and Transport plans for Essex county; and major infrastructure projects. Other plan documents (e.g. water resources

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<sup>8</sup> European Court of Justice judgment in the Waddenzee case (C-127/02)

<sup>9</sup> Peter Charles Boggis and Easton Bavants Conservation v Natural England and Waveney District Council, High Court of Justice Court of Appeal case C1/2009/0041/QBACF Citation No [2009] EWCA Civ. 1061 20th October 2009

<sup>10</sup> European Court of Justice judgment in the Waddenzee case (C-127/02)

<sup>11</sup> SI No. 2010/490

management plans) have been consulted to provide evidence on the likelihood of significant but do not form part of the review of other plans and projects.

- 2.10 The detailed review is set out in **Appendix 2** and seeks to identify any effects that could combine with those of the Basildon Borough Local Plan Core Strategy with the result that insignificant effects of the Core Strategy become significant. The types of effect identified by the review are summarised in **Chapter 3**.

### Policy screening and assessment of likely significant effects

- 2.11 Next, an assessment was carried out to identify the potential for each of the Core Strategy Revised Preferred Options policies to have likely significant effects on any of the European sites scoped into the HRA. When carrying out the HRA Screening, particular consideration was given to the possible pathways through which effects may be transmitted to features contributing to the integrity of the European sites (e.g. via groundwater, air and river catchments). A risk-based approach involving the application of the precautionary principle was adopted in the assessment, **such that a conclusion of 'no significant effect' was only reached where it was considered unlikely**, based on current knowledge and the information available, that a Core Strategy proposal would have a significant effect on the integrity of a European site.
- 2.12 A screening matrix was prepared in order to assess which, if any, of the components of the Core Strategy have the potential for likely significant effects on European sites. The Core Strategy was screened against criteria adapted from the David Tyldesley and Associates guidance.<sup>12</sup> For ease of reference, these criteria are set out in the assessment chapter as **Table 3.1** rather than in this methodology chapter.

## Stage 2: Appropriate Assessment

- 2.13 Where a plan is likely to have a significant effect, the Habitats Regulations stipulate that the competent authority may only adopt a plan after having ascertained that there will be **no adverse effect on the integrity** of a European site (subject to considerations of IROPI). In this context, the integrity of a European site means *"the coherence of its ecological structure and function across its whole area, or the habitats or mixture of habitats and/or populations of species for which the site has (or will be) designated"*<sup>13</sup>.
- 2.14 The purpose of the 'Appropriate Assessment' stage is therefore to consider whether any of the likely significant effects which could not be ruled out by HRA Screening may have an adverse effect on the integrity of a European site, either alone or in-combination with other plans and projects. This entails a more detailed examination of each likely significant effect of the Core Strategy in the context of the designated interest of the European sites within the scope of the study, as set out in **Chapter 4**.

## Consultation and the HRA process to date

- 2.15 HRA also requires close working with Natural England as the statutory nature conservation body<sup>14</sup> in order to obtain the necessary information and agree the process, outcomes and any mitigation proposals. The Environment Agency, while not a statutory body for the HRA, is also in a strong position to provide advice and information during the HRA process as it is required to undertake HRA as part of its licensing activities.
- 2.16 Basildon Borough Council has made significant changes to the Core Strategy Revised Preferred Options relative to earlier versions of the Plan. In light of this, this HRA Report does not attempt

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<sup>12</sup> The Habitats Regulations Assessment of Regional Spatial Strategies and Sub-Regional Strategies. David Tyldesley and Associates, 2007.

<sup>13</sup> The Habitats and Wild Birds Directives in England and its seas: Core guidance for developers, regulators & land/marine managers (draft for public consultation), Defra, December 2012.

<sup>14</sup> Regulation 5 of The Conservation of Habitats and Species Regulations 2010. HMSO Statutory Instrument 2010 No. 490.

to track the changes made to the Plan and assess whether these changes alter the conclusions of HRA work carried out for previous version of the Core Strategy Preferred Options published for consultation in February 2012. Instead, the HRA has been carried out as a new, standalone assessment of the latest Plan version.

- 2.17 However, in order to inform the approach to the HRA, LUC has reviewed representations received by the Council from Natural England and the Environment Agency on the HRA for the January 2012 Plan, which are summarised in **Table 2.2**. The table also sets the responses to each of these representations that the Council provided in its Statement of Consultation<sup>15</sup> and how they have been addressed, if still relevant to the revised Core Strategy.

**Table 2.2 Comments on the HRA for February 2012 Core Strategy Preferred Options**

Comment received	Council's response in Statement of Consultation 2012	Response of HRA for Revised Preferred Options 2013
<b>Natural England</b>		
<p><b>Habitats Regulation Assessment Report General Comments</b> The document is generally very thorough in its consideration of the potential for the Core Strategy policies both alone, and in combination with other plans and policies, to result in likely significant effects on Natura 2000 sites. However, Natural England is concerned that full evaluation of Policy PAD13 (South Essex Marshes) has not been undertaken, and advises that further justification is required to enable a conclusion of no likely significant effects on Natura 2000 sites. Further comments in respect of the evidence base provided in the HRA Screening Report, the evaluation, and the conclusions of the assessment are provided below.</p>	Noted. See proposed actions below.	See below.
<p><b>Greater Thames Marshes Nature Improvement Area (Section 3.3.2)</b> DEFRA announced that the Greater Thames Marshes was included in the nationwide list of 12 Nature Improvement Areas (NIAs) in its press release dated 27 February 2012, although it is acknowledged that the list was published after the draft HRA Screening Report was submitted to Basildon Borough Council. It is recommended that revised versions of the HRA Screening Report are amended to reflect this for completeness.</p>	Include Greater Thames Marshes new status as Nature Improvement Area in HRA Report.	Greater Thames Marshes NIA has been referred to where relevant.
<p><b>Potential Hazards (Section 3.3.3)</b> There is consideration in the in-combination effects assessment presented in Table 3 of the potential effects of air quality, but this is not identified in the 'Potential Hazards' list preceding the assessment. It is considered that this potential impact is a relevant consideration with respect to the identified sites as there is the potential for changes in air quality to occur as a result of increases in traffic flows. Whilst it is likely that such impacts</p>	Provide further detail on effects of air quality arising from increased traffic.	<p>Some HRAs for other plans reviewed in Appendix 2 identified potential likely significant effects from traffic-related air pollution in-combination with traffic generated by the plans of neighbouring districts but such effects were ruled out after full Appropriate Assessment.</p> <p>It is considered that the potential for likely significant air quality effects from traffic generation associated with the Core Strategy</p>

<sup>15</sup> Basildon Borough Council Core Strategy Preferred Options Statement of Consultation September 2012

Comment received	Council's response in Statement of Consultation 2012	Response of HRA for Revised Preferred Options 2013
<p>can be scoped out given the distances between the Core Strategy area and the designated sites, further detail is required to be presented in the evidence base to justify this.</p>		<p>Revised Preferred Options, in combination with other plans and projects, can be ruled out on the basis of the following.</p> <ol style="list-style-type: none"> <li>1) The separation distance between the growth areas in the Core Strategy and European sites, the closest being Crouch and Roach Estuaries (Mid-Essex Phase 3) SPA and Ramsar site which is approximately 2.5 km to the north east of growth area to east of Wickford urban area. Government guidance states that a potential for effects on designated nature conservation sites only exists for sites within 200 m of roads likely to experience significant increases in traffic.<sup>16</sup></li> <li>2) Core Strategy policies which serve to reduce <b>the Plan's</b> likely adverse effects on air quality, including CP10 Green Infrastructure, CP14 Protecting Environmental Quality, and CP19 Transport Infrastructure.</li> <li>3) Lack of evidence that the qualifying features of the European sites within the scope of the HRA are vulnerable to reduced air quality, with eutrophication effects linked to water quality, rather than air quality.</li> </ol>
<p><b>In-combination Effects (Section 3.3.4)</b> The in-combination effects have not been identified for two of the plans in Table 3; Brentwood Replacement Local Plan 2005 and Southend-on-Sea Local Transport Plan 2006-2011.</p>	<p>Identify any relevant in-combination effects with Brentwood Replacement Local Plan and Southend on Sea Transport Plan.</p>	<p>This HRA contains an entirely new review of other plans and projects rather than amending the previous one.</p>
<p><b>Policy PADC13 (Section 3.3.5)</b> Policy PADC13 (South Essex Marshes) is identified as a an 'amber' policy that requires further evaluation in the HRA Screening Report and both Table 4 and Appendix 3 identify the potential for a likely significant effect on the international sites through increased disturbance. However, the text <b>discussion in the</b> 'Justification of Finding' columns in both tables is incomplete and the evaluation is therefore inconclusive at present with respect to this policy.</p> <p>It is noted from the Core Strategy that Policy PADC13 relates to the promotion of public accessibility to the South Essex Marshes area through the creation of the Thames Estuary Path, as well as the proposed creation of natural habitat at the Pitsea Landfill Site (following proposed closure and remediation of the</p>	<p>Undertake a more extensive evaluation of PADC13 to identify likely significant effects on international sites.</p>	<p>All policies flagged as amber by the HRA Screening in Chapter 3 have been considered in carrying out the Appropriate Assessment in Chapter 4.</p> <p>In relation to Policy <i>PADC7 South Essex Marshes</i> (formerly PADC13), the HRA now recommends amendment of the policy before Submission stage to avoid increased accessibility of nearby Benfleet and Southend Marshes SPA and Ramsar site or Thames Estuary and Marshes SPA and Ramsar from the NIA.</p>

<sup>16</sup> DfT (2007) Design Manual for Roads and Bridges Volume II Environmental Assessment Section 3 Environmental Assessment Techniques HA207/07

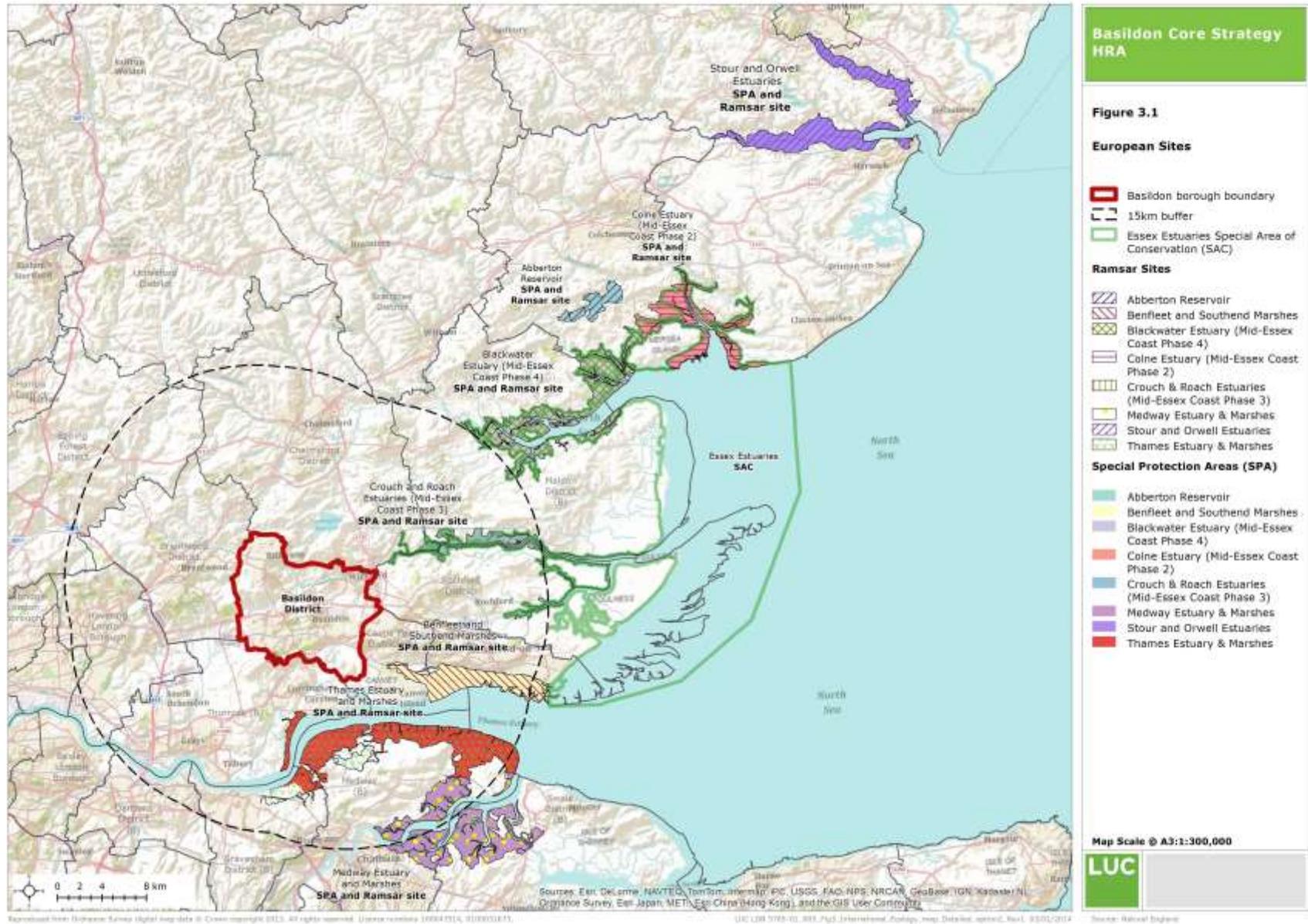
Comment received	Council's response in Statement of Consultation 2012	Response of HRA for Revised Preferred Options 2013
<p>site) and the creation of an RSPB reserve at Bowers Marsh. As discussed for The Spatial Growth Options Policy, it is stated that Basildon Borough Council has '...added text to the Core Strategy in relation to monitoring of the international sites. The Council will look to form a joint monitoring programme with the surrounding local authorities focussed on gathering data including visitor numbers at coastal hotspots'.</p> <p>It is noted that this justification provides evidence that the Council have considered and addressed the potential risk of increased disturbance to international sites due to the increased housing allocation, and is therefore also applicable to Policy PADC13. This mitigation is also alluded to in the conclusions of the HRA Screening Report (Section 4.2) but is not explicitly considered with respect to Policy PADC13 in the report text. Due to the potential for Policy PADC13 to result in likely significant effects due to the active promotion of recreational activity at South Essex Marshes, in contrast to a potential passive increase in recreational activity due to increased visitor pressure from the housing allocation sites, full evaluation and justification is required in the evidence base to support the conclusion of no likely significant effects.</p>		
<b>Environment Agency</b>		
<p>Whilst Natural England will provide you with a substantive response to the HRA, we are pleased to note that the Screening Report has considered the impacts of the plan on water quality and water resources. We do however draw your attention to the potential issues associated with growth in the catchments of Basildon and Wickford Wastewater Treatment Works (WwTWs). As acknowledged on page 19 of the report, your Water Cycle Study (WCS) identified both these WwTWs to be operating at its consented Dry Weather Flow capacity. Consequently, based on this the WCS, there is no capacity to accept further growth. However, since issuing your WCS Anglian Water have advised us (in relation to a planning application) that Basildon WwTW does have capacity. We are currently seeking further clarification from them on this issue and if the same also applies for Wickford WwTW. We therefore suggest that you contact them to get an update on this situation. Notwithstanding the above, Policy CS14 should ensure development is delivered in a phased manner to enable waste water infrastructure to be upgraded to prevent</p>	<p>Notwithstanding the findings of the Water Cycle Study, Anglian Water have indicated that there is currently WWTW capacity in the Borough to accommodate Option A and B, but this would depend on phasing and development locations, as some works have greater capacity than others. Option C would require investment in the form of revised flow consents, water quality consents and process enhancements.</p> <p>Ensure Core Strategy takes into account Water Cycle Study and waste water infrastructure requirements. Amend Policy CS14 to ensure development is delivered in a phased manner to enable infrastructure to be upgraded.</p>	<p>The HRA has fully considered the findings of the Water Cycle Study in relation to wastewater treatment capacity issues and has concluded that there is a need for further discussion between the Council, AWS and the Environment Agency to agree a means to achieving the growth proposed by the Core Strategy without a deterioration in water quality downstream of certain WwTWs.</p>

<b>Comment received</b>	<b>Council's response in Statement of Consultation 2012</b>	<b>Response of HRA for Revised Preferred Options 2013</b>
harm to the environment.		

### 3 HRA Screening stage

#### Identification of European sites and factors contributing to their integrity

- 3.1 European sites within 15 km of the Basildon Borough boundary were as follows:
- Benfleet and Southend Marshes SPA and Ramsar site.
  - Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site.
  - Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site.
  - Essex Estuaries SAC
  - Medway Estuary & Marshes SPA and Ramsar site.
  - Thames Estuary & Marshes SPA and Ramsar site.
- 3.2 Three additional European sites beyond the 15 km buffer were also considered in relation to potential water resources effects:
- Abberton Reservoir SPA and Ramsar site.
  - Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar Site.
  - Stour and Orwell Estuaries SPA and Ramsar site.
- 3.3 Of these additional European sites, the January 2012 HRA for the previous version of the Core Strategy Preferred Options on which Natural England was consulted only included Abberton Reservoir. However, since the South Essex Water Cycle Study indicates that the water available to all three of these sites could be affected by abstraction to supply the Essex Resource Zone of which Basildon Borough is part, Colne Estuary and Stour and Orwell Estuaries were scoped into the HRA on a precautionary basis.
- 3.4 All of the European sites above are shown on **Figure 3.1**. Other types of significant effect on other European sites lying more than 15 km from the Borough boundary are not considered likely because of the **distances between the Plan's proposals and the European sites and/or the absence of pathways** along which such effects could occur. These other European sites are not shown on **Figure 3.1**. Descriptions of these European sites, their designated features and of factors affecting their integrity are provided in **Appendix 1**.





## Review of other plans and projects

- 3.5 The detailed review of other plans and projects is set out in **Appendix 2**. The main types of effect from other plans and project which could also arise from the Basildon Borough Local Plan Core Strategy Revised Preferred Options and potentially combine to have significant effects on the European sites above are as follows:
- Increased recreational disturbance.
  - Reduced water quality.
  - Reduced water resources.
- 3.6 Other types of effect to which the Basildon Borough Local Plan Core Strategy is unlikely to contribute significantly to but which could nevertheless place pressure on European sites and reduce their resilience to effects from Basildon Borough's Local Plan include direct habitat loss, coastal squeeze, increased air pollution, effects from increased shipping, effects from any future proposal for a hub airport in the Thames Estuary, increased predation, increased noise, and dust generation.
- 3.7 These potential effects from other plans and projects were taken into account in the HRA Screening and Appropriate Assessment of the Basildon Borough Local Plan Core Strategy Revised Preferred Options.

## Screening of Core Strategy policies for likely significant effects

- 3.8 An assessment was carried out in order to identify the potential for each of the Core Strategy Revised Preferred Options policies to have likely significant effects on European sites. Each policy was assigned one or more of the policy screening criteria set out in **Table 3.1**. Details of the reason(s) for the screening opinions reached for each policy are set out in **Table 3.2**.
- 3.9 Although the screening matrix presents the screening assessment for each policy individually, the conclusions take into account the potential impacts of other plans and projects.

**Table 3.1 Policy screening criteria**

Effects on European site
<b>Elements of the Core Strategy that will have no effect on a European site</b>
<b>1.</b> The policy or proposal will not itself lead to development (e.g. it relates to design or other qualitative criteria for development, or it is not a land use planning policy)
<b>2.</b> The policy or proposal is intended to protect the natural environment, including biodiversity.
<b>3.</b> The policy or proposal is intended to conserve or enhance the natural, built or historic environment, and enhancement measures will not be likely to have any effect on a European site.
<b>4.</b> The policy or proposal positively steers development away from European sites and associated sensitive areas, e.g. not developing in areas of flood risk or areas otherwise likely to be affected by climate change; or concentration of development in urban areas will not affect European site and will help to steer development and land use change away from European site and associated sensitive areas.
<b>Elements of the Core Strategy that will be subject to HRA or project assessment 'down the line' to protect European sites</b>
<b>5.</b> No development could occur through this policy or proposal alone, because it is implemented through subordinate policies which are more detailed and therefore more appropriate to assess for their effects on

Effects on European site
European site and associated sensitive areas.
<b>6.</b> The policy or proposal makes provision for a quantum / type of development (and may or may not indicate one or more broad locations e.g. a sub-region) but the location of the development is to be selected following consideration of options in lower tier plans (development plan documents).
Elements of the Core Strategy that could or would have a potential effect on European sites
<b>7.</b> The policy or proposal steers a quantum or type of development towards, or encourages development in, an area that includes a European site or an area where development may indirectly affect a European site.
<b>8.</b> The policy or proposal makes provision for a quantum, or kind of development that in the location(s) proposed would be likely to have a significant effect on a European site.
<b>9.</b> The policy or proposal could result in cumulative effects on European sites (especially indirect effects) of development proposals coordinated by the Core Strategy, which alone would not be significant but in combination are likely to be.
<b>10.</b> Programmes or sequences of development delivered via a series of projects, over a period, where the implementation of the early stages would not have a significant effect on European sites, but which effectively dictate the shape, scale, duration, location, and timing of the whole project, which could have an adverse effect on such sites.
<b>11.</b> Developments that could close off options or alternatives in the future, that may lead to adverse effects on European sites.
<b>12.</b> Proposals that have a high risk of failing the tests of the Habitats Regulations at project assessment stage.
<b>13.</b> Policies or proposals for a quantum of development that, no matter where it was located, it would be likely to have a significant effect on a European site.

### Significant effects likely

- 3.10 Significant effects are not considered likely in respect of any of the policies within the Core Strategy Revised Preferred Options, primarily because of the distance between European sites and the areas that are the focus for development in the Core Strategy.

### Significant effects not likely

- 3.11 Significant effects are not considered likely in relation to the Core Strategy policies shaded in green in **Table 3.2**, for combinations of the following different reasons:
- The policy will not result directly in development, rather it sets out criteria for development that will be determined under other, more specific policies, which have been screened separately for their potential to affect European sites (criterion 1, **Table 3.1**); or
  - The policy is specifically intended to protect the natural environment, including biodiversity (criterion 2, **Table 3.1**); or
  - The policy or proposal is intended to conserve or enhance the natural, built or historic environment, and enhancement measures will not be likely to have any effect on a European site (criterion 3, **Table 3.1**); or
  - The policy positively steers development away from European sites and associated sensitive areas (criterion 4, **Table 3.1**); or
  - No development could occur through this policy or proposal alone, because it is implemented through sub-ordinate policies which are more detailed and therefore more appropriate to

assess for their effects on European site and associated sensitive areas (criterion 5, **Table 3.1**); or.

- The policy or proposal makes provision for a quantum / type of development (and may or may not indicate one or more broad locations e.g. a sub-region) but the location of the development is to be selected following consideration of options in lower tier plans (development plan documents (criterion 6, **Table 3.1**).

### Significant effects uncertain

3.12 Where uncertainty exists as to whether likely significant effects on European sites can be ruled out, HRA requires that a more detailed 'Appropriate Assessment' takes place, an application of the precautionary principle. Uncertainty regarding significant effects exists for the Core Strategy Revised Preferred Options policies highlighted in orange in **Table 3.2**. The types of effect for which more detailed evaluation was required were reduced water quality from increased discharges of treated wastewater, reduced water resources due to increased abstraction for potable water supply and increased recreational disturbance due to increased visitor numbers at European sites. An Appropriate Assessment of these uncertain effects was therefore carried out, as presented in **Chapter 4**.

**Table 3.2 HRA Screening of the Core Strategy Revised Preferred Options**

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
<b>SPATIAL STRATEGY</b>			
Policy CP1 / Spatial Option 2A	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy identifies the amount and broad locations of housing and employment development within the Borough, the vast majority to be in or adjacent to Basildon, Wickford or Billericay.</p> <p>The closest European site to the growth areas identified in Spatial Option 2A is Crouch and Roach Estuaries (Mid-Essex Phase 3) SPA and Ramsar site, the closest part of which is approximately 2.5 km from the growth area east of Wickford. It is considered that at this and greater distances, potential pathways only exist for the following types of likely significant effect capable of affecting the European sites within the scope of this HRA:</p> <ul style="list-style-type: none"> <li>• Hydrological effects such as reduced water quality, reduced water resources, and increased flood risk.</li> <li>• Recreational disturbance impacts.</li> </ul> <p>Reduced water quality: Water Cycle Study indicates potential issues within the Borough in respect of wastewater treatment capacity. Housing development will increase demand for wastewater treatment capacity so likely significant effects require further evaluation.</p> <p>Reduced water resources: Essex is one of the driest parts of the country and Water Cycle Study indicates potential issues within the water resources zone within which Basildon Borough is located. Housing development will increase demand for potable water so likely significant effects require further evaluation.</p> <p>Increased flood risk: <b>Policy CP16: Flood Risk and Drainage Management</b> will direct development to areas with a lower risk of flooding, minimising the possibility that development will result in loss of flood storage and increased flood risk downstream at European sites. For any development that is permitted in the floodplain, compensation is required</p>

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
			<p>by providing water storage of the equivalent size. The policy also mitigates downstream flood risk by the requirement to incorporate Sustainable Drainage Systems (SuDS), where appropriate. Likely significant effects can be screened out.</p> <p>Increased recreational disturbance: All of the European sites within the scope of the HRA have designated bird interests and recreational disturbance was identified as an issue for a number of them in their Natura 2000 Site Data Forms / Ramsar Information Sheets. Although not within easy walking distance of any European site, housing development within Basildon Borough may add to recreational pressure on European sites in combination with development in other districts. Likely significant effects require further evaluation.</p>
<b>PREFERRED AREAS FOR DEVELOPMENT AND CHANGE (PADC)</b>			
PADC1 – Basildon Town Centre	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for up to 2,000 new homes, significant amounts of retail, office and leisure floorspace, a college, a hotel and other provisions in Basildon Town Centre.</p> <p>Enhancements to green infrastructure provide some mitigation of potential increased recreational disturbance but given the scale of proposed housing growth <b>it is recommended that, similar to other PADC policies, this policy provides for formal and informal open space provision in accordance with the Council's adopted Open Space Standards, Playing Pitch Standards and Play Strategy and Core Policy 10.</b> Development density in the Town Centre may mean that this needs to be provided off-site.</p> <p>There are therefore similar issues to those identified for Spatial Option 2A above.</p>
PADC2 – Laindon Town Centre	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for at least 150 new homes and a 2,500 m<sup>2</sup> food store in Laindon Town Centre.</p> <p>Whilst there are similar types of issue to those identified for Spatial Option 2A above, the scale of development means that this policy alone is unlikely to contribute significantly to effects on any European sites although it may contribute to in combination effects.</p>
PADC3 – A127 Enterprise Corridor	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	<p>Employment development: 4,</p> <p>Residential development: 7, 9, 13</p>	<p>This policy steers 230,000 m<sup>2</sup> of new business development towards previously developed land and other sites within existing employment areas and centres along the A127 north of Basildon.</p> <p>Employment development in these locations is not considered likely to give rise to significant effects on the European sites beyond the Borough boundary. In any event, individual projects would be subject to project level HRA, if relevant.</p> <p>Policy also provides for mixed use development at Gardiners Lane South. In relation to the residential element of this development there are similar issues to those identified for Spatial Option 2A above.</p>
PADC4 – Nethermayne Urban Extension	<p>Reduced water quality</p> <p>Reduced water resources</p>	7, 9, 13	<p>Policy provides for a Sustainable Urban Extension (SUE) to the south of Basildon with up to 725 new homes and supporting infrastructure by 2025.</p> <p>Requirements for at least 13 ha of new green</p>

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
	Increased recreational disturbance		<p>infrastructure and extension of the rights of way network provide some mitigation of recreational disturbance.</p> <p>There are therefore similar issues to those identified for Spatial Option 2A above.</p>
PADC5 –West Basildon Urban Extension	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for a Sustainable Urban Extension (SUE) to the west of Basildon with at least 2,300 new homes and 5.5 ha of employment land between 2016 and 2031.</p> <p>Land is partly within Flood Zone 3a but potential loss of flood storage is mitigated by Policy CP16 (see above).</p> <p>Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.</p> <p>There are therefore similar issues to those identified for Spatial Option 2A above.</p>
PADC6: North East Basildon Urban Extension	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for a SUE to the north east of Basildon with at least 2,000 new homes and up to 5.5 ha of employment land between 2016 and 2031.</p> <p>Land is partly within Flood Zone 3a but potential loss of flood storage is mitigated by Policy CP16 (see above).</p> <p>Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.</p> <p><b>Policy requires development to “have due regard to the Mid Essex Coast Phase 3 SPA, SAC and Ramsar site within 5km, the Benfleet and Southend Marshes SPA and Ramsar site and the Pitsea Marshes SSSI within 2 km”.</b></p> <p>There are therefore similar issues to those identified for Spatial Option 2A above.</p>
PADC7: South Essex Marshes	Increased recreational disturbance	2, 7	<p>Policy seeks to enhance habitat and promote public access to South Essex Marshes which forms part of the Greater Thames Marshes Nature Improvement Area (NIA). This enhancement should provide a large area of Suitable Alternative Natural Greenspace (SANG) that is capable of diverting visitors from using nearby European sites, particularly Benfleet and Southend Marshes SPA and Ramsar site, thereby helping to mitigate increased recreational pressure from housing development within the Borough.</p> <p><b>However, it is recommended that policy also states that public access enhancements will not connect into nearby Benfleet and Southend Marshes SPA and Ramsar site or Thames Estuary and Marshes SPA and Ramsar site to avoid the possibility of increasing recreational disturbance at these European sites.</b> The enhanced habitat area may also benefit European sites by providing additional supporting habitat for their designated bird species.</p>
PADC8: Wickford Town Centre Regeneration	<p>Reduced water quality</p> <p>Reduced water</p>	7, 9, 13	<p>Policy provides for at least 50 new homes and 7,300 m<sup>2</sup> of retail space in Wickford Town Centre.</p> <p><b>Policy requires development to “have due regard to</b></p>

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
	resources  Increased recreational disturbance		<i>the SAC, SPA and Ramsar sites within 5 km".</i>  Whilst there are similar types of issue to those identified for Spatial Option 2A above, the scale of development means that this policy alone is unlikely to contribute significantly to effects on any European sites although it may contribute to in combination effects. Given the close proximity to Crouch and Roach Estuaries (Mid-Essex Phase 3) SPA and Ramsar site, however, it is <b>recommended that this policy provides for formal and informal open space provision in accordance with the Council's adopted Open Space Standards, Playing Pitch Standards and Play Strategy and Core Policy 10.</b> Development density in the Town Centre may mean that this needs to be provided off-site.
PADC9: North East Wickford Urban Extension	Reduced water quality  Reduced water resources  Increased recreational disturbance	7, 9, 13	Policy provides for a SUE to the north east of Wickford with up to 150 new homes between 2026 and 2031.  Land is partly within Flood Zone 3a but potential loss of flood storage is mitigated by Policy CP16 (see above).  Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.  Policy requires that <i>"Regard must be given to the need to limit any impact on international ecological designations applying to the River Crouch and Roach Estuaries (SPA, SAC and Ramsar).."</i>  Whilst there are similar types of issue to those identified for Spatial Option 2A above, the scale of development means that this policy alone is unlikely to contribute significantly to effects on any European sites although it may contribute to in combination effects.
PADC10: South Wickford Urban Extension	Reduced water quality  Reduced water resources  Increased recreational disturbance	7, 9, 13	Policy provides for a SUE to the south of Wickford with up to 760 new homes by 2031.  Land is partly within Flood Zone 3a but potential loss of flood storage is mitigated by Policy CP16 (see above).  Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.  Policy requires that <i>"Consideration must be given to limit any impact on international ecological designations given to the River Crouch and Roach Estuaries (SPA, SAC and Ramsar)"</i> .  There are therefore similar issues to those identified for Spatial Option 2A above.
PADC11: West Wickford Urban Extension	Reduced water quality  Reduced water resources  Increased recreational disturbance	7, 9, 13	Policy provides for a SUE to the west of Wickford with up to 220 new homes between 2023 and 2028.  Land is partly within Flood Zone 3a but potential loss of flood storage is mitigated by Policy CP16 (see above).  Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
			<p>recreational disturbance.</p> <p>Policy requires that <b>"Consideration must be given to limit any impact on international ecological designations given to the River Crouch and Roach Estuaries (SPA, SAC and Ramsar) downstream"</b>.</p> <p>Whilst there are similar types of issue to those identified for Spatial Option 2A above, the scale of development means that this policy alone is unlikely to contribute significantly to effects on any European sites although it may contribute to in combination effects.</p>
PADC12: North West Wickford Urban Extension	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for a SUE to the north west of Wickford with up to 620 new homes between 2018 and 2025.</p> <p>Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.</p> <p>Policy requires that <b>"Consideration must be given to limit any impact on international ecological designations given to the River Crouch and Roach Estuaries (SPA, SAC and Ramsar) downstream"</b>.</p> <p>There are therefore similar issues to those identified for Spatial Option 2A above.</p>
PADC13: South East Billericay Urban Extension	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for an urban extension to the south east of Billericay with up to 180 new homes between 2017 and 2021.</p> <p>Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.</p> <p>Whilst there are similar types of issue to those identified for Spatial Option 2A above, the scale of development means that this policy alone is unlikely to contribute significantly to effects on any European sites although it may contribute to in combination effects.</p>
PADC14: East Billericay Urban Extension	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for an urban extension to the east of Billericay with up to 430 new homes between 2022 and 2028.</p> <p>Requirements for open space provision in line with adopted Open Space Standards and extension of the rights of way network provide some mitigation of recreational disturbance.</p> <p>There are therefore similar issues to those identified for Spatial Option 2A above.</p>

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
PADC15: Billericay West Deferred Area of Search	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for a potential SUE to the west of Billericay with up to 1,400 new homes, infrastructure and service provision, subject to further appraisal and mitigation testing by the Council and Highways Authority to identify whether any suitable highway mitigation is possible.</p> <p>There are similar issues to those identified for Spatial Option 2A above, but with a greater degree of uncertainty as the exact location of the SUE within an arc to the west of Billericay will not be determined until publication of Site Allocations DPD.</p> <p>Given the scale of proposed housing growth <b>it is recommended that, similar to other PADC policies, this policy provides for formal and informal open space provision in accordance with the Council's adopted Open Space Standards, Playing Pitch Standards and Play Strategy and Core Policy 10. Similar to the other large-scale PADCs, the policy should also include a requirement to limit any impact on international ecological designations.</b></p>
<b>CORE POLICIES</b>			
Policy CP2: Presumption in Favour of Sustainable Development	None	1	This is an overarching policy which adopts a positive approach to development provided it complies with National Policy and the suite of policies set out in the Local Plan Core Strategy Revised Preferred Options Report.
Policy CP3: Affordable Housing	None	1	The policy will not lead to development but relates to the affordability of development provided for elsewhere within the Core Strategy.
Policy CP4: Housing Mix	None	1	The policy will not lead to development but relates to the housing mix of development provided for elsewhere within the Core Strategy.
Policy CP5: Gypsy, Traveller and Travelling Showpeople Needs	<p>Reduced water quality</p> <p>Reduced water resources</p> <p>Increased recreational disturbance</p>	7, 9, 13	<p>Policy provides for at least 30 Gypsy and Traveller pitches up to 2016 and an additional 91 via a subsequent Gypsy, Traveller and Travelling Showpeople DPD.</p> <p>Whilst there are similar types of issue to those identified for Spatial Option 2A above, the scale of development means that this policy alone is unlikely to contribute significantly to effects on any European sites although it may contribute to in combination effects. Individual site developments and any subsequent Gypsy and Traveller DPD would also be subject to HRA down the line, if appropriate.</p>
Policy CP6: Estate Renewal	None	1	The policy will not lead to development of specific, known sites but sets a framework for future regeneration projects.
Policy CP7: Supporting and Sustaining the Local Economy	None	4, 5	This policy steers new business development towards previously developed land and sites within existing employment areas and centres. Employment development in these locations is not considered likely to give rise to significant effects on the European sites beyond the Borough boundary. In any event, individual projects would be subject HRA during preparation of the Local Plan Site Allocations and Development Management Policies and through project level HRA, if relevant.

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
Policy CP8: Securing Centre Vitality	None	4	Policy promotes retail, leisure and community development in existing town centres. These include Wickford Town Centre which is approximately 4 km south west of the Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site. No likely significant effects on the European site are judged to exist from these land uses at this separation distance. Construction-related effects are also judged unlikely at this distance and are more appropriately addressed via project-level HRA. Provision of leisure facilities may reduce recreation pressure on European sites.
Policy CP9: Conservation and the Natural Environment	None	2	Policy is intended to protect the natural environment, including <b><i>"Ensuring that new development within the Borough does not harm International and European sites of nature conservation, namely Ramsar, SPA and SAC sites, beyond the Borough's boundaries"</i></b> .
Policy CP10: Green Infrastructure	None	2	By protecting and <b>enhancing the Borough's Green Infrastructure</b> network, this policy should help to mitigate potential impacts to European sites by, for example, reducing recreation pressure by providing alternative space for outdoor recreation and providing increased connectivity of ecological networks between European sites.
Policy CP11: Green Belt	None	1,4	Policy will not lead to development. By maintaining <b>the Green Belt around the Borough's settlements</b> (except in those areas designated as PADCs or identified for infill development) it also helps to steer development away from locations closer to European sites, encouraging development within existing urban areas. The likely effect of the PADC development is considered earlier in this table.
Policy CP12: Conserving the Historic Environment	None	3	Policy will not lead to development but instead seeks to conserve and enhance the historic environment and enhancement measures will not be likely to have any effect on a European site.
Policy CP13: Design and the Built Environment	None	1	The policy will not lead to development but relates to the design of development provided for elsewhere within the Local Plan Core Strategy Revised Preferred Options Report.
Policy CP14: Protecting Environmental Quality	None	1, 2	Policy will not lead to development but instead seeks to protect and enhance the natural environment.
Policy CP15: Maximising Energy Efficiency	None	1, 6	The sustainable construction provisions of this policy will not lead to development but relate to the design of development provided for elsewhere within the Local Plan Core Strategy Revised Preferred Options Report. The renewable energy provisions give qualified support to renewable energy development but state that it will not be permitted if it results in harm to wildlife and habitats. Such development is also steered away from Green Belt locations helping to avoid locations closer to European sites outside the Borough. Any specific proposals would be subject to project level HRA down the line, if appropriate.
Policy CP16: Flood Risk and Drainage Management	None	1	Policy seeks to manage flood risk within the Borough but will not lead to development. Policy also serves to mitigate potential adverse effects of development in the floodplain on downstream European sites by steering development towards lower flood risk locations and by requiring any development that does

Strategy/ policy	Likely significant effects requiring further evaluation	Reasons (see Table 3.1)	Justification
			take place in the floodplain to provide flood storage of equivalent size. Requirement for SuDS in new development will also help to avoid downstream changes in hydrology due to development.
Policy CP17: Health and Wellbeing	None	1, 6	The policy provision for Health Impact Assessment will not lead to development. Other provisions will support enhancement and development of healthcare facilities in <b>the Borough's</b> urban areas and at other locations not yet specified but significant effects at European sites are not considered likely because of the lack of proximity and because individual developments would also be subject to project level HRA down the line, if appropriate.
Policy CP18: Education, Community, Leisure and Cultural Facilities	None	1, 6	The policy provision for protection and refurbishment of existing facilities will not lead to development. Other provisions will support development of new facilities at locations not yet specified. Significant effects at European sites are not considered likely because of the lack of proximity and because individual developments would also be subject to project level HRA down the line, if appropriate. Provision of new leisure facilities may also help to reduce recreational pressure from housing development on European sites.
Policy CP19: Transport Infrastructure	None	1, 5	Much of the policy does not relate to development but rather promotes modal shift to sustainable means of transport, seeks to locate freight-generating development (provided for elsewhere) to areas with good connections to the existing strategic transport network and to improve air quality. The policy aspirations to <b>"strengthen links to and between key facilities (bus and railway stations, hospitals, employers and town centres), and aim to improve north/south links more generally throughout the Borough"</b> do support development but would not be in proximity to the European sites beyond the Borough boundary and would, in any case, be delivered through other, more detailed plans and projects which would be subject to HRA, if relevant.
Policy CP20: Securing Investment in Infrastructure	None	1	Policy will not lead to development but rather seeks to ensure that new development contributes towards infrastructure provision. This should ensure that improved water and wastewater infrastructure is in place in advance of or in parallel with development with potential benefits through improved water quality and maintenance of water resources for downstream European nature conservation sites.

## 4 Appropriate Assessment stage

4.1 The HRA screening considered the vulnerabilities of European sites in relation to the types of effect which may arise from the development proposed by the Basildon Borough Local Plan Core Strategy Revised Preferred Options. The screening exercise was unable to rule out the following types of likely significant effect which are now subject to further evaluation to determine whether significant effects on the integrity of a European site can be ruled out:

- Reduced water quality.
- Reduced water resources.
- Increased recreational disturbance.

### Reduced water quality

4.2 Development within Basildon Borough may affect the water quality of the European sites beyond its boundary via increased volumes of treated wastewater discharged from the WwTWs serving communities in the Borough. This could, in turn, result in nutrient enrichment of water and potential lowering of dissolved oxygen as well as increased water velocities and levels for a distance downstream of the WwTW outfall.

4.3 The review of the characteristics of European sites within the scope of the HRA (**Appendix 1**) indicates that whilst water quality issues are only identified as a factor currently affecting site integrity at some sites, the designated features of all of them have the potential to be adversely affected if water entering the site were to experience significantly increased nutrient inputs or significant changes to the hydrological regime.

4.4 A South Essex Outline Water Cycle Study was produced in September 2011 covering the administrative areas of Basildon Borough, Castle Point Borough and Rochford District. The Water Cycle Study carried out modelling to determine how much growth could be accommodated within each of the WwTWs serving Basildon Borough without compromising downstream water quality, assuming that each WwTW was operating at the limits of conventional wastewater treatment technology. The Water Cycle Study and WwTW discharge consents were reviewed to establish whether hydrological connectivity exists between the WwTWs serving Basildon and any European sites. The Water Cycle Study informed an assessment of the ability of relevant WwTWs to accommodate development of the scale proposed by the Core Strategy without deterioration in downstream water quality which could adversely affect the identified European sites. The results are summarised in **Table 4.1**.

**Table 4.1 Wastewater treatment capacity in WwTWs serving Basildon Borough**

WwTW serving Basildon Borough (location)	Hydrological connectivity to European sites	Dwelling capacity <sup>17</sup>	Implications for HRA
<b>Discharge to tidal watercourse</b>			
Basildon WwTW (Cortauld Road, north of Basildon)	Despite being close to the Basildon Brook, a tributary of the River Crouch, this WwTW's effluent is pumped southwards in a pipe to discharge to <b>Timberman's Creek in Pitsea</b> (grid reference TO737874) which is connected to the River	0	Increase in discharge consent would be required for any growth. Upgrades to the limits of conventional treatment technology would allow an additional <b>586,000 dwellings</b> within the catchment with no decrease in downstream

<sup>17</sup> Theoretical number of households that could be built within the WwTW catchment before existing discharge consent and volumetric capacity exceeded.

WwTW serving Basildon Borough (location)	Hydrological connectivity to European sites	Dwelling capacity <sup>17</sup>	Implications for HRA
	Thames approximately 5 km upstream of Benfleet and Southend Marshes SPA and Ramsar site and opposite the Thames Estuary and Marshes SPA and Ramsar site.		<p>water quality. A significant increase in discharge volume would also necessitate a new effluent outfall.</p> <p>Core Strategy dwelling provision for 2011-2031 is 16,000 homes for all of Basildon Borough of which 10,125 are within Basildon main urban area including Laindon and Pitsea. Number of homes provided within catchment of this WwTW is unknown.</p>
Wickford WwTW (to north east of Wickford; also serves Chelmsford City Council administrative area)	Discharges to River Crouch (grid reference TQ76919401) and is therefore hydrologically connected to Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Essex Estuaries SAC.	0	<p>Increase in discharge consent would be required for any growth. Upgrades to the limits of conventional treatment technology would allow an additional <b>106,000 dwellings</b> within the catchment with no decrease in downstream water quality.</p> <p>Core Strategy dwelling provision for 2011-2031 is 16,000 homes for all of Basildon Borough of which 2,800 are in Wickford. A relatively small proportion of the 14,000 homes provided for across Chelmsford City by its adopted Core Strategy are provided in the part of the Borough lying closest to Wickford WwTW. Number of homes provided within catchment of this WwTW is unknown.</p>
Pitsea WwTW (near Pitsea Station south of Basildon)	<b>Discharges to Timberman's Creek</b> (grid reference TQ736868) which is connected to the River Thames approximately 5 km upstream of Benfleet and Southend Marshes SPA and Ramsar site and opposite the Thames Estuary and Marshes SPA and Ramsar site.	10,600	<p>Significant headroom exists within current discharge consents; only if more than 10,600 additional homes were developed within the catchment of the WwTW would an increase in consented discharge volume be required. However, assuming upgrades to the limits of conventional treatment technology, only <b>9,300 new dwellings</b> could be developed within the catchment before a decrease in downstream water quality.</p> <p>Core Strategy dwelling provision for 2011-2031 is 16,000 homes for all of Basildon Borough of which 10,125 are within Basildon main urban area including Laindon and Pitsea. Number of homes provided within catchment of this WwTW is unknown. <i>Policy PADC5 West Basildon Urban Extension</i> states the need for investment in Basildon WwTW prior to development.</p>
<b>Discharge to fluvial watercourse</b>			
Billericay WwTW (East of Billericay)	Discharges to River Crouch (grid reference TQ69899420) and is therefore hydrologically connected to Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Essex Estuaries SAC.	2,150	Some headroom exists before a consent for additional discharges would be required. However, no increase in discharge volume is possible without breaching Water Framework Directive standards for ammonia, even if the treatment standard were increased to the limit

WwTW serving Basildon Borough (location)	Hydrological connectivity to European sites	Dwelling capacity <sup>17</sup>	Implications for HRA
			<p>of conventional technology. The volumetric capacity of the receiving channel may also be a constraint to significant growth. The Water Cycle Study raises the possibility that additional wastewater flows in the Billericay catchment could be transferred to the Shenfield and Hutton WwTW for treatment because of its large headroom within existing consents but the feasibility of such a network connection is not known.</p> <p>Core Strategy dwelling provision for 2011-2031 is 16,000 homes for all of Basildon Borough of which 2,500 are in Billericay. Number of homes provided within catchment of this WwTW is unknown.</p>
<p>Shenfield and Hutton WwTW  (north east of Hutton; currently does not serve Basildon Borough, only serves Brentwood Borough)</p>	<p>Discharges to the River Wid, (grid reference TQ65109600) and is therefore hydrologically connected to Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site and Essex Estuaries SAC.</p>	<p>18,450</p>	<p>This works do not currently serve Basildon Borough. It was explored as a possibility by the WCS in case Basildon needs extra WwTW capacity due to the capacity constraints at Billericay WwTW. This would require installation of a new wastewater mains pipe to connect Shenfield and Hutton WwTW with development in Basildon Borough.</p> <p>Significant headroom exists before a consent for additional discharges would be required. The Water Cycle Study does not state whether increased discharges within the existing consent would breach Water Framework Directive water quality standards in the receiving watercourse nor identify that watercourse.</p> <p>Core Strategy dwelling provision for 2011-2031 is 16,000 homes for all of Basildon Borough of which a relatively small proportion are located in the part of the Borough closest to the WwTW. 3,500 homes are provided for across all of Brentwood Borough in its emerging Local Plan for 2015-2030. Number of homes provided within catchment of this WwTW is unknown.</p>

4.5 As summarised in **Table 4.1**, the Water Cycle Study indicates that Basildon WwTW and Wickford WwTW are already at the limits of their current discharge consents and will therefore need to apply for new consents to accommodate any growth within their catchments. Existing discharge consent standards are relatively relaxed at both WwTWs meaning that there is the potential for new consents to require upgrades to standards of treatment such that very large numbers of additional dwellings could be accommodated within each of their catchments without deterioration of downstream water quality. Such upgrades would be funded by Anglian Water Serviced Ltd (AWS) through the Asset Management Plan (AMP) process (AMP6 from 2016 to 2020 or AMP7 from 2021 to 2025) and the Water Cycle Study recommends that the Council consults with AWS to confirm that required upgrades can be carried out in advance of the proposed scale and phasing of development. This is an issue for the deliverability of the Core Strategy rather than

the HRA since **the Review of Consents Process will ensure no adverse effects on the integrity of European sites.**

- 4.6 Approximately 9,300 new homes could be accommodated within the catchment of Pitsea WwTW without deterioration of downstream water quality through upgrades to the current, relatively relaxed discharge standards. New discharge consents would not be required, however, until additional discharge volumes equivalent to 10,600 new homes occurred, with the result that there is the potential for additional discharges to occur without such upgrades, resulting in adverse effects on water quality and likely significant effects on Benfleet and Southend Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site. **Significant effects on the integrity of European sites cannot be ruled out** from housing development within the catchment of Pitsea WwTW until confirmation is obtained that treatment upgrades will be carried out in advance of the proposed scale and phasing of development. The Water Cycle Study states that the actual consent limits required should be more accurately determined once the proposed number of houses within the work's catchment is known.
- 4.7 Within the catchment of Billericay WwTW additional discharge volumes equivalent to 2,150 new homes would take place within existing consents. However, no increase in discharge volumes is possible without breaching Water Framework Directive standards for ammonia, even if the treatment standard were increased to the limit of conventional technology. **Significant effects cannot be ruled out** from any housing development within the catchment of Billericay WwTW on the integrity of Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA or Ramsar site and Essex Estuaries SAC in the absence of further information to confirm that, either:
- failure to meet 'Good' ammonia status would not result in likely significant effects on these European sites, or;
  - additional discharges from Billericay WwTW can be avoided by transferring all additional wastewater flows to Shenfield and Hutton WwTW for treatment or new developments can be connected directly to Shenfield and Hutton WwTW.
- 4.8 It is understood from Basildon Borough Council that the **Environment Agency's position, based upon the 2011 Water Cycle Study, is that until it has proof that enhancements have been or will be carried out to wastewater infrastructure they have outstanding concerns about the growth strategy and its compliance with the Water Framework Directive.** As part of this, AWS has pointed out that their wastewater treatment works are not the sole contributor to water quality deterioration, with agricultural pollution sources also a factor. There are also concerns that the Water Cycle Study is now more than two years old and the situation in terms of investment in new wastewater treatment infrastructure may have changed since it was written. The Council is therefore in discussions with AWS and the Environment Agency to move things forward and the two parties have agreed to produce a Statement of Common Ground which will be available by Submission stage in 2014. Until the Council, AWS and the Environment Agency agree an approach to achieving the growth proposed by the Core Strategy without a deterioration in water quality downstream of Pitsea and Billericay WwTWs, **significant effects on the integrity of European sites cannot be ruled out.**

## Reduced water resources

- 4.9 Development within Basildon Borough may affect water levels and flow regimes at the European sites beyond its boundary via increased abstraction to serve its potable water needs. The review of the characteristics of European sites within the scope of the HRA (**Appendix 1**) indicates that whilst water resources issues are only identified as a factor currently affecting site integrity at some sites, the designated features of the all them have the potential to be adversely affected by significant changes to the hydrological regime.
- 4.10 The South Essex Water Cycle Study states that potable water in Basildon Borough is supplied by **Essex and Suffolk Water and that the Borough is located within the 'Essex Resource Zone'**. This zone is the appropriate scale at which to consider water resources effects and the Water Cycle Study together with Essex and Suffolk Water's January 2010 Water Resource Management Plan provide a means of doing so that takes account of potential effects on European sites in combination with water resource requirements of neighbouring areas.

- 4.11 Water within the Essex Resource Zone originates from a wide variety of sources:
- The River Stour, with the potential for downstream effects on the hydrology of the Stour and Orwell Estuaries SPA and Ramsar site.
  - Roman River, with the potential for downstream effects on the hydrology of Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar site and Essex Estuaries SAC.
  - Pumped storage reservoir at Abberton, with the potential for effects on the hydrology of Abberton Reservoir SPA and Ramsar site.
  - The Rivers Chelmer and Blackwater and Hanningfield reservoir, with the potential for downstream effects on the hydrology of Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site and Essex Estuaries SAC.
  - Transfers from outside Essex, primarily from Thames Water via the Lea Valley reservoirs and from the Ely Ouse River at Denver in Norfolk (account for approximately 30% of water in the Essex supply area).
  - Groundwater resources in the south and south west of the zone (only supply 3% of the zone's demand).
- 4.12 There is therefore the potential for increased abstraction to supply new development within Basildon Borough to have adverse effects on European sites in relation to water resources. The interconnected nature of the water supply network within the Essex Resource Zone means that the locations of housing provision within Basildon are of little relevance to the potential effects. The following assessment of the potential for significant effects on the integrity of European sites relies on the ecological assessment within the 2011 Water Cycle Study.
- 4.13 Without measures to increase supply or reduce demand, the Essex Resource Zone is expected to be in supply-demand deficit in a normal weather year from 2014/15 to beyond the end of the Core Strategy Plan period; it is already in deficit for dry years. This will be addressed by exploring options for demand management (e.g. water efficiency measures), distribution management (e.g. leakage reduction), production management (e.g. reduction of treatment works losses) and resource management (e.g. new abstractions and storage, including extension of the existing reservoir at Abberton).
- 4.14 The Water Cycle Study concludes that from 2014, any possible shortfall in the potable water supply needs of the study area will be met through the Abberton Reservoir enlargement scheme, for which construction is now complete. This scheme was subject to its own Appropriate Assessment which concluded no adverse effects on designated conservation sites. Instead the increased storage capacity will increase the habitat available for the internationally important bird populations, leading to a positive effect. Since the Abberton Scheme has already been subject to its own Appropriate Assessment there is no need for it to be reconsidered in this HRA. It is unclear from the Water Cycle Study whether this conclusion holds for all four housing growth options being considered by Basildon Borough Council at the time (those within the Core Strategy Preferred Options 2012 which ranged from at least 6,500 to approximately 21,000 new homes) or only for the 9-11,000 homes that were considered most likely to be selected at the time. **However, Essex and Suffolk Water's January 2010 Water Resource Management Plan provides the foundation for the Water Cycle Study's assessment of water resources and the very large supply-demand surplus shown for the Essex Resource Zone from 2014/15 (i.e. once the Abberton Scheme comes online) provides comfort that the Water Cycle Study conclusion remains valid for the 16,000 new homes now provided for by Basildon Borough's Local Plan Core Strategy.**
- 4.15 Until the Abberton scheme comes fully online (i.e. the enlarged reservoir is filled) however, the Essex Resource Zone is continuing to operate with a supply-demand shortfall and is seeking to address this through demand management measures. The Water Cycle Study policy recommendation to the South Essex councils including Basildon Borough is for a water use target of 105 l/h/d for new households. Core Strategy Policy CP14: Environmental Quality provides generic mitigation by requiring development to support water efficient design in line with the Water Framework Directive and Environment Agency Guidance. The Water Cycle Study predicts there will be no need to increase existing groundwater and/or surface water licences which currently supply water to Basildon Borough and the other districts within Essex Resource Zone before the Abberton reservoir scheme comes online. Moreover, the existing spare capacity in

these consents, which may be required to serve new development in the study area up to 2014-2015, has already been evaluated for its potential to result in adverse effects on European sites through the Environment Agency's Review of Consents process (which always assesses the full licensed volume irrespective of whether the current actual volume is lower).

- 4.16 In light of the above, it is considered that **significant effects on the integrity of European sites in respect of water resources can be ruled out** for the development proposed by Basildon Borough's Local Plan Core Strategy Revised Preferred Options.

## Increased recreational disturbance

- 4.17 The review of the characteristics of European sites within the scope of the HRA (**Appendix 1**) indicates that whilst recreational issues are only identified as a factor currently affecting site integrity at some sites, all of them have designated bird interest with the potential to be adversely disturbed by increased recreational visits. Potential adverse effects include visual and noise disturbance of bird populations by walkers, especially those with dogs, and by those engaged in marine activities such as angling, jet skiing and kite surfing. Localised damage to vegetation and soils by frequent pedestrian traffic, mountain bikes and trail bikes could also result in adverse effects (particularly if there are qualifying habitats).
- 4.18 The European sites in closest proximity to settlements which are a focus for housing development in Basildon Borough and the potential for recreational disturbance is set out in **Table 4.2**.

**Table 4.2 Vulnerability to recreational disturbance of European sites in closest proximity to Basildon Borough Council housing development**

European site	Location in relation to growth areas in spatial strategy	Vulnerability to recreational disturbance
Thames Estuary SPA and Ramsar site	Approximately 8 km south of growth areas to east and west of Basildon urban area	SPA Standard Data Form identified intertidal area as vulnerable to disturbance from water borne recreation. Supports assemblages of internationally important waterfowl.
Benfleet and Southend Marshes SPA and Ramsar site	Approximately 5 km south east of growth area to east of Basildon urban area	Ramsar Information Sheet reported disturbance from leisure boating activities including jet-skiing, sailing and power-boating.
Crouch and Roach Estuaries (Mid-Essex Phase 3) SPA and Ramsar site	Approximately 2.5 km north east of growth area to east of Wickford urban area	SPA Standard Data Form identified disturbance of breeding and roosting waterfowl through recreational use of sea wall footpaths.

- 4.19 Whilst the proximity of the European sites in **Table 4.2** to growth areas in Basildon Borough may mean that these European sites may experience the greatest increase in recreational visits as a result of planned development in the Borough, this is by no means certain. None of the European sites are within easy walking distance of a growth location and once recreational visitors need to travel by car they may be as likely to visit more distant European sites which are better connected to the road network, have better parking facilities, offer better opportunities for watersports or mountain biking and so on. Alternative facilities such as the new mountain biking centre at Hadleigh Farm to the south east of Basildon Borough are likely to provide some mitigation of recreation pressure by new residents of Basildon Borough. Uncertainty as to the spatial pattern of additional recreational pressure that is likely to be placed on European sites by the development proposed for Basildon Borough is compounded by the fact that this additional pressure will act in combination with that arising from neighbouring districts, including those closer to the European sites in question.
- 4.20 In light of the uncertainty described above, it is considered that the potential recreational effects of growth in Basildon on European sites, in-combination with that arising from development in other South Essex districts, bear relatively little relation to the particular locations within the Borough that are chosen for growth. Rather than targeting mitigation at spatially specific development policies such as PAD1-PAD17, it is considered that the diffuse recreational

pressure resulting from development in the Borough is best addressed by an overarching package of mitigation measures. As suggested by the January 2012 HRA Screening of Basildon's Core Strategy Preferred Options, mitigation of recreation pressure can be achieved via three principal means:

- Provision of alternative greenspace.
- Visitor management.
- Monitoring.

4.21 The sections below outline the contribution that these types of mitigation can make to avoiding likely significant effects and review the extent to which the policies of the Local Plan Core Strategy Revised Preferred Options Report already provide mitigation of that type.

### Provision of alternative greenspace

4.22 Provision of SANG in step with development in Basildon Borough could help to divert recreational trips to European sites. This could be a combination of new on-site and off-site greenspace and enhancement of existing greenspace and rights of way. Mitigation from existing Core Strategy policies is as follows.

4.23 Core Strategy Policy *CP10 – Green Infrastructure* seeks to protect and enhance the Borough's Green Infrastructure (GI) network, including by:

*"Enhancing and extending strategic networks and other access opportunities for walkers, cyclists, horse-riders and other outdoor recreational pursuits in ways that are compatible with...wildlife"*

*"incorporating new green infrastructure into new development, where appropriate"*

*"Ensuring that the provision of all open space as part of new development (including playing pitches and play spaces) accords with the Council's relevant standards".*

**4.24** It is noted that the Borough's PPG17 Open Space Assessment Part I (2010) and Part II (2011) recommend standards of provision for the quantity and accessibility of various types of open space and that these have been adopted by the Core Strategy (Policy CP10 and Appendix C). The quantity standards for generally accessible open space of the types that people in the Borough most wish to have easy access to (Urban Park and Garden including Country Parks; Amenity Green Space; Natural Green Space) are based on current, average levels of open space provision per 1,000 population for the Borough as a whole. All else being equal, maintenance of this quantity standard for the Borough as a whole through new open space provision from new development would be likely to mean that residents of new development in the Borough would have similar alternative outdoor recreation opportunities to existing residents and be equally likely to visit European sites. The total number of recreational visits to European sites would therefore be likely to increase in line with housing growth, adding to recreation pressure at sensitive sites. However, the PPG17 Assessments and Core Strategy Revised Preferred Options Report apply these standards for individual settlement areas, thereby directing open space provided by new development to those settlement areas that currently fall below average levels of open space provision for the Borough. By addressing the areas of open space deficiency, this open space strategy should serve to reduce recreational pressure on European sites from existing residents, thereby creating some additional capacity for visits by new residents. **It is recommended, however, that Appendix C of the Core Strategy clarifies that the quantity standards for open space provision by new development are amounts per person.**

4.25 Core Strategy Policies *PADC1-PADC6* and *PADC9-PADC15* specify Green Infrastructure requirements for key development locations including open space provision, as summarised in **Table 3.2**. It is **recommended that Policies PADC1 Basildon Town Centre, PADC8 Wickford Town Centre and PADC15 Billericay West Deferred Area of Search provide for formal and informal open space in accordance with the Council's adopted Open Space Standards, Playing Pitch Standards and Play Strategy and Core Policy 10. It is further recommended that the Core Strategy describes the mechanisms that will be used to ensure that new accessible open space will be maintained in perpetuity.**

4.26 Core Strategy Policy *PADC7 – South Essex Marshes* provides for transformation of a large marshland complex in the south east of the Borough into a publicly accessible Thameside

wilderness. Specific enhancements within the South Essex Marshes will be improvements to Wat Tyler Country Park; restoration of Pitsea Landfill Site as a publicly accessible nature reserve by 2031; transformation of Vange Marshes into a sustainable wetland wildlife community; and establishment and extension of a comprehensive network of footpaths, bridleways and cycleways within the Marshes and with improved connectivity to the urban areas of Basildon, Castle Point and Thurrock. Provision of new Natural Green Space at South Essex Marshes will be within the Basildon settlement area which already exceeds the standard for this type of open space. The large size of this open space is also likely to attract a higher than average proportion of visitors from other settlement areas within the Borough. Together, these factors should help to address the concern expressed above that the total numbers of visitors to European sites could increase as a result of new development. The enhanced habitat area may also benefit European sites by providing additional supporting habitat for their designated bird species. **However, it is recommended that policy also states that public access enhancements will not connect into nearby Benfleet and Southend Marshes SPA and Ramsar site or Thames Estuary and Marshes SPA and Ramsar site to avoid the possibility of increasing recreational disturbance at these European sites.**

- 4.27 Taken together, and provided that recommended changes to the Core Strategy are adopted, these Core Strategy provisions are judged sufficient to deliver the 'Provision of alternative greenspace' component of a recreation mitigation strategy.

### Visitor management

- 4.28 Joint working with other districts and bodies responsible for European site management could provide appropriate visitor management measures for European sites. This could include:
- Managing access to steer visitors towards less sensitive locations within European sites or to reduce the convenience of visiting sites during more sensitive periods.
  - Visitor education and supervision e.g. via provision of wardens/rangers, information boards, and community work with the aim of informing visitors how to reduce their impacts on designated features and to enforce rules.
- 4.29 The Core Strategy does not currently provide for this form of mitigation of recreation pressure.

### Monitoring

- 4.30 Joint working with other districts and bodies responsible for European site management could provide appropriate monitoring at European sites, which could contribute to a better understanding of visitor provenance and behaviour and the effects of that behaviour on designated features. This would help to manage uncertainty regarding current visitor pressure on European sites and the effectiveness of alternative mitigation measures in reducing that pressure, thereby enabling future visitor management and alternative greenspace provision to be targeted most effectively. If necessary, monitoring could also signal the need for early review of Development Plans if it revealed that visitor pressure was placing site integrity under threat.
- 4.31 The Core Strategy does not currently provide for this form of mitigation of recreation pressure.

### Recommendations on mitigation of recreational disturbance

- 4.32 In light of the reservations described above, particularly the absence of information within the Core Strategy Revised Preferred Options about how visitor management and monitoring measures in will be secured alongside development **it is not currently possible to rule out significant effects on the integrity of European sites in relation to recreational disturbance.**
- 4.33 In order to address these concerns and as stated above it is recommended that before Submission stage, the Core Strategy:
- Clarifies that the quantity standards for open space provision by new development are amounts per person.
  - Provides for formal and informal open space provision in accordance with the Council's adopted Open Space Standards, Playing Pitch Standards and Play Strategy and Core Policy 10 to meet the needs of the development proposed by Policies *PADC1 Basildon Town Centre*, *PADC8 Wickford Town Centre* and *PADC15 Billericay West Deferred Area of Search*.

- Describes the mechanisms by which new accessible open space will be maintained in perpetuity.
- Ensures that the public access enhancements provided for by PADC7 South Essex Marshes do not connect into nearby Benfleet and Southend Marshes SPA and Ramsar site or Thames Estuary and Marshes SPA and Ramsar site.
- Sets out joint working arrangements by which Basildon Borough and other districts within the visitor catchment area can contribute towards visitor management measures within existing European site management plans (or a joint commitment to develop such plans).
- Sets out joint working arrangements by which Basildon Borough and other districts within the visitor catchment area can contribute towards visitor pressure monitoring measures, the suite of indicators to be tracked, the actions to be taken should monitoring indicate that a European site is being threatened by incremental visitor pressure, and the reporting arrangements.

## 5 Conclusions

- 5.1 HRA Screening for the Local Plan Core Strategy Revised Preferred Options Report 2013 was unable to rule out likely significant effects on European sites from a variety of policies providing for growth and development in Basildon Borough. The types of effect for which more detailed evaluation was required were reduced water quality from increased discharges of treated wastewater, reduced water resources due to increased abstraction for potable water supply and increased recreational disturbance due to increased visitor numbers at European sites.
- 5.2 An Appropriate Assessment of these uncertain effects was therefore carried out with the following results.
- 5.3 **Reduced water quality:** Significant effects on the integrity of European sites cannot be ruled out from housing development within the catchments of Pitsea WwTW (potential effects on Benfleet and Southend Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site) and Billericay WwTW (potential effects on Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA or Ramsar site and Essex Estuaries SAC). Further avoidance and mitigation is required and it is therefore recommended that further discussion takes place between the Council, AWS and the Environment Agency to agree an approach to achieving the growth proposed by the Core Strategy without a deterioration in water quality downstream of these two WwTWs.
- 5.4 **Reduced water resources:** Significant effects on the integrity of European sites can be ruled out as a result of the Abberton Reservoir enlargement scheme, other supply and demand management measures and the Environment Agency's Review of Consents process.
- 5.5 **Increased recreational disturbance:** Significant effects on the European sites within the scope of the HRA cannot be ruled out from the growth proposed by the Core Strategy either alone or in combination with growth in neighbouring districts. Further avoidance and mitigation is required and it is therefore recommended that the Core Strategy:
- Clarifies that the quantity standards for open space provision by new development in Appendix C are amounts per person.
  - Provides for formal and informal open space provision in accordance with the Council's adopted Open Space Standards, Playing Pitch Standards and Play Strategy and Core Policy 10 to meet the needs of the development proposed by Policies *PADC1 Basildon Town Centre*, *PADC8 Wickford Town Centre* and *PADC15 Billericay West Deferred Area of Search*.
  - Describes the mechanisms by which new accessible open space will be maintained in perpetuity.
  - Ensures that the public access enhancements provided for by PADC7 South Essex Marshes do not connect into nearby Benfleet and Southend Marshes SPA and Ramsar site or Thames Estuary and Marshes SPA and Ramsar site.
  - Sets out joint working arrangements by which Basildon Borough and other districts within the visitor catchment area can contribute towards visitor management measures within existing European site management plans (or a joint commitment to develop such plans).
  - Sets out joint working arrangements by which Basildon Borough and other districts within the visitor catchment area can contribute towards visitor pressure monitoring measures, the suite of indicators to be tracked, the actions to be taken should monitoring indicate that a European site is being threatened by incremental visitor pressure, and the reporting arrangements.

## **Appendix 1**

### Characteristics of European sites



Site Name	Area (ha) <sup>18</sup> <sup>19</sup>	Overview of site and its location <sup>20</sup>	Qualifying Features <sup>21</sup> <sup>22</sup>	Conservation objectives (only available for SACs & SPAs) <sup>23</sup>	Key vulnerabilities / factors affecting site integrity <sup>24</sup>
Abberton Reservoir SPA	726.2	Abberton Reservoir is about 6.5 km south of Colchester, Essex. It lies in the Layer Brook valley just before the Brook joins with the Roman River. The Reservoir is less than 8 km from the coast.	<p>Supports the following internationally important waterbird assemblage:</p> <ul style="list-style-type: none"> <li>• <i>Podiceps cristatus</i>; Great crested grebe (Non-breeding)</li> <li>• <i>Phalacrocorax carbo</i>; Great cormorant (Breeding)</li> <li>• <i>Cygnus olor</i>; Mute swan (Non-breeding)</li> <li>• <i>Anas penelope</i>; Eurasian wigeon (Non-breeding)</li> <li>• <i>Anas strepera</i>; Gadwall (Non-breeding) <i>Anas crecca</i>; Eurasian teal (Non-breeding)</li> <li>• <i>Anas clypeata</i>; Northern shoveler (Non-breeding)</li> <li>• <i>Aythya ferina</i>; Common pochard (Non-breeding)</li> <li>• <i>Aythya fuligula</i>; Tufted duck (Non-breeding)</li> <li>• <i>Bucephala clangula</i>; Common goldeneye (Non-breeding)</li> <li>• <i>Fulica atra</i>; Common coot (Non-breeding)</li> <li>• <i>Pluvialis apricaria</i>; European golden plover (Non-breeding)</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying</li> </ul>	<p>Abberton Reservoir is a public water supply reservoir. Reduced water availability, and increased demand, in recent years has led to generally low water levels; greater numbers of waders therefore use the site, and as a result no decrease in wildfowl has been attributed to low water levels. The possibility of <b>raising the reservoir level to secure water supply</b> is under consideration, and the requirement of waterfowl are a primary consideration of the EIA.</p> <p>Water entering the site has <b>elevated nitrate levels</b>, leading in most summers to algal blooms, but there is no evidence of impacts on wildlife.</p> <p>The Water Company has a consultative committee which addresses conservation issues at all its</p>

<sup>18</sup> SAC and SPA Standard Data Forms and Ramsar Site Information Sheets, JNCC, <http://jncc.defra.gov.uk/page-4>

<sup>19</sup> SPA Review site accounts, JNCC, <http://jncc.defra.gov.uk/page-2599>

<sup>20</sup> SPA Review site accounts, JNCC, <http://jncc.defra.gov.uk/page-2599>

<sup>21</sup> SAC and SPA Standard Data Forms and Ramsar Site Information Sheets, JNCC, <http://jncc.defra.gov.uk/page-4>

<sup>22</sup> SPA Review site accounts, JNCC, <http://jncc.defra.gov.uk/page-2599>

<sup>23</sup> European Site Conservation Objectives, Natural England, <http://www.naturalengland.org.uk/ourwork/conservation/designations/sac/conservationobjectives.aspx>

<sup>24</sup> SAC and SPA Standard Data Forms and Ramsar Site Information Sheets, JNCC, <http://jncc.defra.gov.uk/page-4>

Site Name	Area (ha) <sup>18</sup> <sup>19</sup>	Overview of site and its location <sup>20</sup>	Qualifying Features <sup>21 22</sup>	Conservation objectives (only available for SACs & SPAs) <sup>23</sup>	Key vulnerabilities / factors affecting site integrity <sup>24</sup>
				features within the site.	sites, and the Abberton Reserve Committee (involving Essex Wildlife Trust and EN) addresses local issues.
Abberton Reservoir Ramsar site	726.2	Abberton Reservoir is about 6.5 km south of Colchester, Essex. It lies in the Layer Brook valley just before the Brook joins with the Roman River. The Reservoir is less than 8 km from the coast.	Supports 23787 waterfowl (5 year peak mean 1998/99-2002/2003) including the following internationally important waterbird assemblage: <ul style="list-style-type: none"> <li>Gadwall , <i>Anas strepera strepera</i></li> <li>Northern shoveler , <i>Anas clypeata</i></li> <li>Eurasian wigeon , <i>Anas Penelope</i></li> <li>Mute swan , <i>Cygnus olor</i></li> <li>Common pochard , <i>Aythya farina</i></li> <li>Great cormorant , <i>Phalacrocorax carbo carbo</i>,</li> <li>Eurasian teal , <i>Anas crecca</i>,</li> <li>Tufted duck , <i>Aythya fuligula</i></li> <li>Common coot , <i>Fulica atra atra</i></li> <li>Pied avocet , <i>Recurvirostra avosetta</i>,</li> <li>Ruff , <i>Philomachus pugnax</i>,</li> <li>Black-tailed godwit , <i>Limosa limosa islandica</i>,</li> <li>Spotted redshank , <i>Tringa erythropus</i>,</li> <li>Common greenshank , <i>Tringa nebularia</i>,</li> <li>Common goldeneye , <i>Bucephala clangula clangula</i>,</li> </ul>	With regard to the individual species and/or assemblage of species for which the site has been classified: <ul style="list-style-type: none"> <li>Avoid the deterioration of the habitats of the 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.</li> </ul> Subject to natural change, to maintain or restore: <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features;</li> <li>The structure and function of the habitats of the qualifying features;</li> <li>The supporting processes on which the habitats of the qualifying features rely;</li> <li>The populations of the qualifying features;</li> <li>The distribution of the qualifying features within the site.</li> </ul>	None reported, however likely to be as per the SPA above.
Benfleet and Southend Marshes	2251.31	Benfleet and Southend Marshes are located on the north shore of the	Site regularly supports 34789 waterfowl over winter, including the following waterbird assemblage:	With regard to the individual species and/or assemblage of species for which the site has	Benfleet and Southend Marshes comprises extensive areas of foreshore

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SPA		mouth of the Thames estuary in south Essex. They are south of Southend-on-Sea.	<ul style="list-style-type: none"> <li>• Dark-bellied brent goose, <i>Branta bernicla</i></li> <li>• <i>bernicla</i>,</li> <li>• Grey plover , Pluvialis squatarola,</li> <li>• Red knot , <i>Calidris canutus islandica</i>,</li> <li>• Dunlin , <i>Calidris alpina alpina</i>.</li> </ul>	<p>been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>with a tidal creek system and an area of grazing marsh. The vulnerability of the intertidal habitats is linked to changes in the physical environment, especially to '<b>coastal squeeze</b>'.</p> <p>Recreational activities are not a problem. However, <b>infrastructure works to facilitate visitor attractions</b> are leading to piecemeal development which is dealt with under the planning control provisions of the Habitat Regulations.</p> <p>Both <b>wildfowling and cockle fishing</b> are potential threats which currently are well regulated by agreement. The sea fisheries are regulated by Kent and Essex Sea Fisheries using bye-law power granted by a sea Fisheries regulatory order.</p> <p><b>Dredging</b> of the Thames and <b>inputs of herbicides</b> to the mudflats may be having indirect effects on the loss of intertidal habitat and viability of the eelgrass <i>Zostera</i> beds. Research is underway to determine the effect of herbicides on the eelgrass.</p> <p>The marsh is suffering from</p>

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					<p>the <b>lack of freshwater inputs</b> due to low rainfall. The Environment Agency has instituted a Water Management Plan on the grazing marshes of part of the site which will address the raising of water levels.</p> <p>Sewage outfalls have recently been upgraded to comply with the EC Directives.</p> <p>To secure protection of the site, most of the foreshore is a Local Nature Reserve and covered by the Thames Estuary Management Plan.</p>
Benfleet and Southend Marshes Ramsar site	2251.31	Benfleet and Southend Marshes are located on the north shore of the mouth of the Thames estuary in south Essex. They are south of Southend-on-Sea.	<ul style="list-style-type: none"> <li>Comprise an extensive series of saltmarshes, mudflats, and grassland which support a diverse flora and fauna, including internationally important numbers of wintering waterfowl. <i>Branta bernicla bernicla</i>; Dark-bellied brent goose (Non-breeding)</li> <li><i>Charadrius hiaticula</i>; Ringed plover (Non-breeding)</li> <li><i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</li> <li><i>Calidris canutus</i>; Red knot (Non-breeding)</li> <li><i>Calidris alpina alpina</i>; Dunlin (Non-breeding)</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features;</li> <li>The structure and function of the habitats of the qualifying features;</li> <li>The supporting processes on which</li> </ul>	<p><b>Erosion</b> due to rising sea levels and sinking land levels are compounded by <b>coastal flood defences</b> preventing dynamic coastal change. The Essex Coast and Estuaries Coastal Habitat Management Plan (CHaMP) (Anon. 2002) covers the site and it is expected to inform the shoreline management plan as well as local plan policies.</p> <p>Pollution is causing <b>hyper-nutritification</b> for nitrogen and phosphorus.</p> <p><b>Disturbance</b> from leisure boating activities including jet-skiing, sailing and power-boating. The Thames</p>

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				<p>the habitats of the qualifying features rely;</p> <ul style="list-style-type: none"> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>Estuary Partnership Steering Group is proposing the development of a coastal management strategy for recreational users. This should lead to regulatory stakeholders in the partnership enforcing the strategy and reducing the factor.</p>
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	4395.15	The Blackwater Estuary is a large estuary between the Dengie peninsula and Mersea Island on the Essex coast. It stretches from immediately adjacent to Maldon and about 8 km south of Colchester.	<p>Qualifying Features (Waterbird assemblage):</p> <ul style="list-style-type: none"> <li>• <i>Branta bernicla bernicla</i>; Dark-bellied brent goose (Non-breeding)</li> <li>• <i>Aythya ferina</i>; Common pochard (Breeding)</li> <li>• <i>Circus cyaneus</i>; Hen harrier (Non-breeding)</li> <li>• <i>Charadrius hiaticula</i>; Ringed plover (Breeding)</li> <li>• <i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</li> <li>• <i>Calidris alpina alpina</i>; Dunlin (Non-breeding)</li> <li>• <i>Limosa limosa islandica</i>; Black-tailed godwit (Non-breeding)</li> <li>• <i>Sterna albifrons</i>; Little tern (Breeding)</li> </ul> <p>Additional Qualifying Features Identified by the 2001 UK SPA Review:</p> <ul style="list-style-type: none"> <li>• <i>Tadorna tadorna</i>; Common shelduck (Non-breeding)</li> <li>• <i>Recurvirostra avosetta</i>; Pied avocet (Non-breeding)</li> <li>• <i>Charadrius hiaticula</i>; Ringed plover (Non-breeding)</li> <li>• <i>Pluvialis apricaria</i>; European</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p><b>Coastal erosion</b></p> <p>The main threat to the site is erosion of intertidal habitats due to a combination of sea level rise and isostatic forces operating on the land mass of Great Britain. The situation is worsened with increasing winter storm events, whilst the hard sea walls along this coastline are preventing the saltmarsh and intertidal areas from migrating inland. This situation is starting to be addressed by alternative flood defence techniques. A shoreline management plan has been prepared for the Essex coast which seeks to provide a blueprint for managing the coastline sustainably.</p> <p><b>Nutrient enrichment</b></p> <p>Nutrient enrichment occurs from agricultural run-off and treated sewage effluent.</p>

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			<ul style="list-style-type: none"> <li>golden plover (Non-breeding)</li> <li><i>Philomachus pugnax</i>; Ruff (Non-breeding)</li> <li><i>Tringa totanus</i>; Common redshank (Non-breeding)</li> </ul>		<p>This problem will be addressed through the Essex Estuaries candidate SAC scheme of management as well as review of discharge consents under the Habitats Regulations.</p> <p><b>Water-based recreation</b></p> <p>The control of motorised craft (with particular reference to jet-skis) is being addressed through the Blackwater Estuary Management Plan. Enforcement of speed limits should ensure that roosting birds are not subjected to disturbance and saltmarsh habitats are protected from damage by jet-skis.</p> <p><b>Drought</b></p> <p>The droughts over the last five years have resulted in lowered water tables in grazing marshes. Attempts are being made to restore this by pumping water from adjacent ditches and use of tertiary treated sewage effluent.</p>
Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar site	4395.15	The Blackwater Estuary is a large estuary between the Dengie peninsula and Mersea Island on the Essex coast. It stretches from immediately adjacent to Maldon and	<ul style="list-style-type: none"> <li>Represents 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain. Invertebrate fauna includes at least 16 British Red Data Book species:</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the</li> </ul>	<p><b>Erosion.</b> The Essex Coast and Estuaries Coastal Habitat Management Plan (CHaMP) (Anon. 2002) covers the site and it is expected to inform the shoreline management plan</p>

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		about 8 km south of Colchester.	<ul style="list-style-type: none"> <li>• water beetle <i>Paracymus aeneus</i>;</li> <li>• damselfly <i>Lestes dryas</i>,</li> <li>• flies <i>Aedes flavescens</i>, <i>Erioptera bivittata</i>, <i>Hybomitra expollicata</i> ;</li> <li>• spiders <i>Heliophanus auratus</i> and <i>Trichopterna cito</i>;</li> <li>• beetles <i>Baris scolopacea</i>, <i>Philonthus punctus</i>, <i>Graptodytes bilineatus</i> and <i>Malachius vulneratus</i>,</li> <li>• flies <i>Campsicemus magius</i>, <i>Myopites eximia</i>,</li> <li>• moths <i>Idaea ochrata</i> and <i>Malacosoma castrensis</i>;</li> <li>• spider <i>Euophrys</i>.</li> </ul> <p>Supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.</p> <p>Supports the following internationally important wildfowl assemblage:</p> <ul style="list-style-type: none"> <li>• Dark-bellied brent goose, <i>Branta bernicla bernicla</i>, Grey plover , <i>Pluvialis squatarola</i>,</li> <li>• Dunlin , <i>Calidris alpina alpina</i>,</li> <li>• Black-tailed godwit , <i>Limosa limosa islandica</i>,</li> <li>• European golden plover , <i>Pluvialis apricaria</i></li> <li>• <i>apricaria</i></li> <li>• Common redshank , <i>Tringa</i></li> </ul>	<p>integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>as well as local plan policies. A Shoreline Management Plan has been prepared for the Essex Coast which seems to provide a blueprint for managing the coastline sustainably.</p> <p><b>Pollution from agricultural fertilisers:</b> Arable agriculture surrounds the coastal wetland and runoff from fields enters the site. The Water Framework Directive, is expected to manage water quality throughout the system.</p>

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Colne Estuary (Mid-Essex Coast Phase 2) SPA	2701.43	<p>The Colne Estuary is located on the coast of Essex in eastern England. It is a comparatively short and branching estuary, with five tidal arms that flow into the main channel of the River Colne. The estuary has a narrow intertidal zone predominantly composed of flats of fine silt with mud-flat communities typical of south-eastern English estuaries. The estuary is of importance for a range of wintering wildfowl and waders, in addition to breeding Little Tern <i>Sterna albifrons</i> which nest on shell, sand and shingle spits. There is a wide variety of coastal habitats which include mud-flat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reedbeds which provide feeding and roosting opportunities for the large numbers of waterbirds that use the site.</p> <p>The Colne Estuary is an integral component of the phased Mid-Essex Coast SPA</p>	<p><i>totanus totanus</i></p> <p>Annex I populations of the following species:</p> <p>During the breeding season</p> <ul style="list-style-type: none"> <li>• Little Tern <i>Sterna albifrons</i></li> </ul> <p>Over winter</p> <ul style="list-style-type: none"> <li>• Avocet <i>Recurvirostra avosetta</i></li> <li>• Golden Plover <i>Pluvialis apricaria</i></li> <li>• Hen Harrier <i>Circus cyaneus</i></li> </ul> <p>This site also qualifies under <b>Article 4.2</b> of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter;</p> <ul style="list-style-type: none"> <li>• Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>• Redshank <i>Tringa totanus</i></li> </ul> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl</p>	<p>Avoid the deterioration of the habitats of the 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.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>The Colne Estuary encompasses a diversity of soft coastal habitats, dependent upon natural coastal processes. The vulnerability of these habitats is linked to changes in the physical environment: the intertidal zone is threatened by <b>coastal squeeze</b> and <b>changes to the sediment budget</b>, especially up drift of the site. Limited beach feeding is under way to alleviate the sediment problem.</p> <p>The site is vulnerable to <b>recreational pressures</b> which can lead to habitat damage (salt marsh and sand dunes) and to disturbance of feeding and roosting waterfowl.</p> <p>Pressures for increased use and <b>development of recreational facilities</b> are being addressed through the planning system and under the provisions of the Habitat Regulations.</p> <p><b>Jet- and water-skiing</b> are largely contained by the Harbour Authorities.</p> <p>Most grazing marshes are managed under ESA/ Countryside Stewardship Agreements, but low water</p>

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					<p>levels are of great concern, and <b>low freshwater flows into the estuary</b>, may be affecting bird numbers and/or distribution. This is being addressed through reviews of consents under the Habitats Regulations.</p> <p>Unregulated <b>samphire harvesting</b> is being addressed by notifying all pickers of the legal implications of uprooting plants without the consent of landowners.</p> <p>To secure protection of the site, an Estuarine Management Plan is in preparation, which will work alongside the Essex SMP and the emerging Marine Scheme of Management. The Environment Agency's Local Plan aims to reduce the nutrient enrichment arising from sewage and fertiliser run-off.</p>
Colne Estuary (Mid-Essex Coast Phase 2) Ramsar site	2701.43	The Colne Estuary lies about 3 km south-east of Colchester on the north Essex coast. Colne Estuary is a comparatively short and branching estuary, with five tidal arms which flow into the main river channel. The estuary has a narrow intertidal zone	<p>Ramsar criterion 1</p> <p>The site is important due to the extent and diversity of saltmarsh present.</p> <p>Ramsar criterion 2</p> <p>The site supports 12 species of nationally scarce plants and at least 38 British Red Data Book invertebrate species.</p>	None available.	<p><b>Erosion.</b> The Essex Coast and Estuaries Coastal Habitat Management Plan (CHaMP) (Anon. 2002) covers the site and it is expected to inform the shoreline management plan as well as local plan policies.</p> <p>It is proposed at strategic level to consider opportunities for managed</p>

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		<p>predominantly composed of flats of fine silt with mudflat communities typical of south-eastern estuaries. The estuary is of international importance for wintering Brent Geese and Black-tailed Godwit and of national importance for breeding Little Terns and five other species of wintering waders and wildfowl. The variety of habitats which include mudflat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reedbeds, support outstanding assemblages of invertebrates and plants.</p>	<p>Ramsar criterion 3</p> <p>This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.</p> <p>Ramsar criterion 5</p> <p>Assemblages of international importance:</p> <p>Species with peak counts in winter:</p> <p>32041 waterfowl (5 year peak mean 1998/99-2002/2003)</p> <p>Ramsar criterion 6</p> <p>Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• Dark-bellied brent goose, <i>Branta bernicla bernicla</i>,</li> <li>• Common redshank , <i>Tringa totanus totanus</i></li> </ul> <p>Species/populations identified subsequent to designation for possible future consideration under criterion 6.</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• Black-tailed godwit , <i>Limosa limosa islandica</i></li> </ul>		<p>realignment.</p> <p><b>Pollution:</b> run off of agricultural fertilisers and pesticides from adjacent agricultural land. The Water Framework Directive and new Agri-Environment Schemes are expected to address this factor.</p>
Crouch and Roach Estuaries (Mid-Essex Coast Phase	1735.58	The River Crouch and the River Roach are between the Dengie Peninsula and Southend-on-Sea in	<p>Site regularly supports over winter:</p> <ul style="list-style-type: none"> <li>• <i>Branta bernicla bernicla</i>; Dark-bellied brent goose</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the</li> </ul>	<p><b>Coastal squeeze</b></p> <p><b>Changes to the sediment budget.</b></p>

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3) SPA		Essex, south-east England	<ul style="list-style-type: none"> <li><i>Circus cyaneus</i> Hen harrier</li> </ul>	<p>habitats of the 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.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features;</li> <li>The structure and function of the habitats of the qualifying features;</li> <li>The supporting processes on which the habitats of the qualifying features rely;</li> <li>The populations of the qualifying features;</li> <li>The distribution of the qualifying features within the site.</li> </ul>	<p><b>Disturbance of breeding and roosting waterfowl</b> through recreational use of sea wall footpaths.</p>
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) Ramsar site	1735.58	The River Crouch and the River Roach are between the Dengie Peninsula and Southend-on-Sea in Essex, south-east England	<p>Supports an appreciable assemblage of rare, vulnerable or endangered including 13 nationally scarce plant species:</p> <ul style="list-style-type: none"> <li>slender hare's ear <i>Bupleurum tenuissimum</i>,</li> <li>divided sedge <i>Carex divisa</i>,</li> <li>sea barley <i>Hordeum marinum</i>,</li> <li>golden-samphire <i>Inula crithmoides</i>,</li> <li>laxflowered sea-lavender <i>Limonium humile</i>,</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>The extent and distribution of the</li> </ul>	<p><b>Erosion:</b> Sea defences are amplifying erosion in undefended areas. The Essex Coast and Estuaries Coastal Habitat Management Plan (CHaMP) covers the site and it is expected to inform the shoreline management plan as well as local plan policies.</p> <p><b>Persistent drought:</b> Lack of freshwater flowing into site, particularly as the region is the driest part of the country.</p>

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			<ul style="list-style-type: none"> <li>• curved hard-grass <i>Parapholis incurva</i>,</li> <li>• Borrer's saltmarsh grass <i>Puccinellia fasciculata</i>,</li> <li>• stiff saltmarsh grass <i>Puccinellia rupestris</i>,</li> <li>• spiral tasselweed <i>Ruppia cirrhosa</i>,</li> <li>• one-flowered glasswort <i>Salicornia pusilla</i>,</li> <li>• small cord-grass <i>Spartina maritima</i>,</li> <li>• shrubby seablite <i>Suaeda vera</i> and</li> <li>• sea clover <i>Trifolium squamosum</i>.</li> </ul> <p>Several important invertebrate species also present including</p> <ul style="list-style-type: none"> <li>• scarce emerald damselfly <i>Lestes dryas</i>,</li> <li>• the shorefly <i>Parydroptera discomyzina</i>,</li> <li>• the rare soldier fly <i>Stratiomys singularior</i>,</li> <li>• the large horsefly <i>Hybomitra expollicata</i>,</li> <li>• beetles <i>Graptodytes bilineatus</i>, <i>Malachius vulneratus</i>,</li> <li>• the ground lackey moth <i>Malacosoma castrensis</i> and <i>Eucosoma catoprana</i>.</li> </ul>	<p>habitats of the qualifying features;</p> <ul style="list-style-type: none"> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	

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			<p>Also supports the following internationally important waterbird assemblage:</p> <ul style="list-style-type: none"> <li>• Dark-bellied brent goose, <i>Branta bernicla</i></li> <li>• <i>Bernicla</i>.</li> </ul>		
Essex Estuaries SAC	46140.82	Large estuarine site in south-east England. The site comprises the major estuaries of the Colne, Blackwater, Crouch and Roach river.	<p>Annex 1 habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> <li>• Estuaries</li> <li>• Mudflats and sandflats not covered by seawater at low tide</li> <li>• Salicornia and other animals colonising mud and sand</li> <li>• Spartina swards (<i>Spartinion maritimae</i>)</li> <li>• Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> <li>• Mediterranean and thermo-Atlantic halophilous scrubs</li> </ul> <p>Annex 1 habitats present as a qualifying feature:</p> <ul style="list-style-type: none"> <li>• Sandbanks which are slightly covered by seawater all the time</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>The saltmarshes and mudflats are under threat from '<b>coastal squeeze</b>' - man-made sea defences prevent landward migration of these habitats in response to sea-level rise.</p> <p>These habitats are also vulnerable to plans or projects (onshore and offshore) which have impacts on <b>sediment transport</b>.</p> <p>English Nature's Regulation 33 advice was issued June 2000. A scheme of management is being established with the aim of addressing such problems.</p>
Hamford Water SPA	2187.21	Hamford Water is located on the Essex coast in eastern England. It is a large, shallow estuarine basin comprising tidal creeks and islands,	<p>Annex I species present as a qualifying feature:</p> <p>During the breeding season:</p> <ul style="list-style-type: none"> <li>• Little Tern <i>Sterna albifrons</i></li> </ul>	<p>Avoid the deterioration of the habitats of the 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</p>	<p>The main vulnerability is due to natural changes in sea level, leading to <b>accelerated erosion of saltmarshes</b>. The problem is being addressed in two</p>

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		<p>intertidal mud- and sand-flats, and saltmarsh. The rich invertebrate fauna and sheltered nature of the site results in its importance for internationally important numbers of waterbirds during the passage and winter periods, as well as for breeding terns in summer. The shallow and sheltered nature of the complex provides refuge for waterbirds, especially in periods of severe weather.</p>	<p>Over winter;</p> <ul style="list-style-type: none"> <li>• Avocet <i>Recurvirostra avosetta</i></li> <li>• Golden Plover <i>Pluvialis apricaria</i></li> <li>• Ruff <i>Philomachus pugnax</i></li> </ul> <p>This site also qualifies under <b>Article 4.2</b> of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>On passage; Ringed Plover <i>Charadrius hiaticula</i></p> <p>Over winter;</p> <ul style="list-style-type: none"> <li>• Black-tailed Godwit <i>Limosa limosa islandica</i></li> <li>• Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>• Grey Plover <i>Pluvialis squatarola</i></li> <li>• Ringed Plover <i>Charadrius hiaticula</i></li> <li>• Teal <i>Anas crecca</i></li> <li>• Common shelduck <i>Tadorna tadorna</i></li> <li>• Common redshank <i>Tringa totanus</i></li> </ul> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl.</p>	<p>Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>ways; use of sand and gravels from dredging in Harwich harbour to reinforce existing beaches and protecting grazing marsh areas by reinforcing seawall toe with these materials in the most aggressive areas. The option of managed realignment may be considered in the future.</p> <p>The nature of the site leads to potential <b>water quality</b> problems due to discharge from boats and from local sewage works as well as small industrial discharges. English Nature is addressing this problem with Water Quality Control officers of the Environment Agency (monitoring) and any authorised discharges will be reviewed under the provisions of the Habitat Regulations.</p> <p>Although a secluded backwater the site attracts a large number of yachts and accompanying watersports. There is occasional <b>disturbance</b> to the site by water and jet skiers. This is controlled by a wardening scheme.</p>

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Hamford Water Ramsar site	2187.21	Hamford Water is a tidal inlet whose mouth is about 5 km south of Harwich, Essex. It is a large, shallow estuarine basin comprising tidal creeks and islands, intertidal mud and sand flats, and saltmarsh supporting rare plants and internationally important species/populations of migratory waterfowl.	<p>Species/populations with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> <li>• Ringed plover , <i>Charadrius hiaticula</i>,</li> <li>• Common redshank , <i>Tringa totanus tetanus</i></li> </ul> <p>Species/populations with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• Dark-bellied brent goose, <i>Branta bernicla bernicla</i></li> <li>• Black-tailed godwit , <i>Limosa limosa islandica</i></li> </ul> <p>Species/populations identified subsequent to designation for possible future consideration under criterion 6.</p> <ul style="list-style-type: none"> <li>• Grey plover , <i>Pluvialis squatarola</i></li> </ul>	None available.	<b>Erosion:</b> There is a programme of recharge of dredged material from off-site that has alleviated some of the habitat loss on site. The Essex Coast and Estuaries Coastal Habitat Management Plan (CHaMP) (Anon. 2002) covers the site and it is expected to inform the shoreline management plan as well as local plan policies. The possibility of managed realignment schemes to address erosion impacts may be considered.
Medway Estuary and Marshes SPA	4684.36	<p>Nearest town/city: Canterbury</p> <p>Situated on the north coast of Kent, within the Greater Thames estuary</p>	<p>Supports the following Waterbird assemblage/breeding bird assemblage:</p> <ul style="list-style-type: none"> <li>• <i>Branta bernicla bernicla</i> Dark-bellied brent goose (Non-breeding);</li> <li>• <i>Tadorna tadorna</i> Common shelduck (Non-breeding);</li> <li>• <i>Anas acuta</i> Northern pintail (Non-breeding);</li> <li>• <i>Recurvirostra avosetta</i> Pied avocet (Breeding);</li> <li>• <i>Recurvirostra avosetta</i> Pied avocet (Non-breeding);</li> <li>• <i>Charadrius hiaticula</i> Ringed plover (Non-breeding);</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p>	<p>There is evidence of rapid <b>erosion of intertidal habitat</b> within the site due to natural processes and the <b>effects of sea defences</b> and clay extraction. Research on mudflat recharge using dredging spoil is being investigated as a means of countering the erosion.</p> <p>The <b>intertidal area</b> is also vulnerable to <b>disturbance from water borne</b></p>

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			<ul style="list-style-type: none"> <li>• <i>Pluvialis squatarola</i> Grey plover (Non-breeding);</li> <li>• <i>Calidris canutus</i> Red knot (Non-breeding);</li> <li>• <i>Calidris alpina alpina</i> Dunlin (Non-breeding);</li> <li>• <i>Tringa totanus</i> Common redshank (Non-breeding);</li> <li>• <i>Sterna albifrons</i> Little tern (Breeding).</li> </ul> <p>Additional Qualifying Features Identified by the 2001 UK SPA Review:</p> <ul style="list-style-type: none"> <li>• <i>Limosa limosa islandica</i>; Black-tailed godwit (Non-breeding).</li> </ul>	<ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p><b>recreation.</b> This is being addressed as part of an estuary management plan.</p> <p>The terrestrial part of the site depends on appropriate grazing and management of water.</p> <p>The <b>availability of livestock</b> may be affected by policy on BSE and there will be a need to investigate how this may be addressed through management agreements.</p> <p>The effects of <b>abstraction</b> on the availability of water through abstraction for other land uses and drainage for arable cultivation will be addressed through the consent review process under the Habitats Regulations.</p> <p>Pressures from <b>proposed transport and industrial developments</b> are being addressed through the planning system and under the provisions of the Habitat Regulations.</p>
Medway Estuary and Marshes Ramsar site	4684.36	<p>Nearest town/city: Canterbury</p> <p>Situated on the north coast of Kent, within the Greater Thames estuary</p>	<p>Site holds several nationally scarce plants, including</p> <ul style="list-style-type: none"> <li>• sea barley <i>Hordeum marinum</i>,</li> <li>• curved hard-grass <i>Parapholis incurva</i>.</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the</li> </ul>	<p><b>Water diversion</b> for irrigation/domestic/industrial use.</p> <p><b>Dredging:</b> Continued maintenance dredging for port facilities and jetties may be contributing to</p>

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			<ul style="list-style-type: none"> <li>• annual beard-grass <i>Polypogon monspeliensis</i>,</li> <li>• Borrer's saltmarsh-grass <i>Puccinellia fasciculata</i>,</li> <li>• slender hare`s-ear <i>Bupleurum tenuissimum</i>,</li> <li>• sea clover <i>Trifolium squamosum</i>,</li> <li>• saltmarsh goose-foot <i>Chenopodium chenopodioides</i>,</li> <li>• golden samphire <i>Inula crithmoides</i>,</li> <li>• perennial glasswort <i>Sarcocornia perennis</i> and</li> <li>• one-flowered glasswort <i>Salicornia pusilla</i>.</li> </ul> <p>A total of at least twelve British Red Data Book species of wetland invertebrates have been recorded on the site including</p> <ul style="list-style-type: none"> <li>• ground beetle <i>Polistichus connexus</i>,</li> <li>• a fly <i>Cephalops perspicuus</i>,</li> <li>• a dancefly <i>Poecilobothrus ducalis</i>,</li> <li>• a fly <i>Anagnota collini</i>,</li> <li>• a weevil <i>Baris scolopacea</i>,</li> <li>• a water beetle <i>Berosus spinosus</i>,</li> <li>• a beetle <i>Malachius vulneratus</i>,</li> </ul>	<p>integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>adverse effects, e.g. through removal of sediment from the estuary. Maintenance dredging is subject to regulation and will be assessed under a protocol being trialled by Defra.</p> <p><b>Erosion:</b> The North Kent Coastal Habitat Management Plan (CHaMP) has been produced (Anon. 2002). The Environment Agency is to produce a Shoreline Management Plan/Flood Defence Strategy for the in the Medway and Swale and decisions on future flood risk management will need to take into account the effects on features within the designated sites. Large-scale trials of mudflat recharge to address erosion.</p> <p><b>Eutrophication:</b> The Medway shows symptoms of eutrophication, particularly growth of green algae which covers large areas of the intertidal mudflats in late summer. Studies by the Environment Agency also indicate that the waters in the Medway are hyper-nutriented for nitrogen and phosphorus. Water quality and sources of nutrient inputs are subject to further investigation by the Environment Agency as part</p>

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			<ul style="list-style-type: none"> <li>• a rove beetle <i>Philonthus punctus</i>,</li> <li>• the ground lackey moth <i>Malacosoma castrensis</i>,</li> <li>• a horsefly <i>Atylotus latistriatus</i>,</li> <li>• a fly <i>Campsicnemus magius</i>,</li> <li>• a soldier beetle, <i>Cantharis fusca</i>,</li> <li>• a crane fly <i>Limonia danica</i>.</li> </ul> <p>A significant number of non-wetland British Red Data Book species also occur.</p> <p>The Site also supports the following internationally important waterbird assemblage:</p> <ul style="list-style-type: none"> <li>• Grey plover <i>Pluvialis squatarola</i>;</li> <li>• Common redshank <i>Tringa totanus totanus</i>,</li> <li>• Dark-bellied brent goose <i>Branta bernicla bernicla</i>,</li> <li>• Common shelduck <i>Tadorna tadorna</i>,</li> <li>• Northern pintail <i>Anas acuta</i></li> <li>• Ringed plover <i>Charadrius hiaticula</i>,</li> <li>• Red knot <i>Calidris canutus islandica</i>,</li> <li>• Dunlin <i>Calidris alpina alpina</i></li> <li>• Species/populations identified subsequent to designation for possible future consideration under criterion 6:</li> </ul>		<p>of the Agency's review of consents under the Habitats Regulations.</p> <p>Recreational/touristic <b>disturbance</b>.</p> <p><b>Transport infrastructure development:</b> Construction of new road bridge on to Isle of Sheppey, resulting in loss of some designated habitat and disturbance during construction. Scheme was assessed under Habitats Regulations and compensatory habitat provided (outside current designated site).</p>

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			<ul style="list-style-type: none"> <li>Black-tailed godwit <i>Limosa limosa islandica</i></li> </ul>		
Stour and Orwell Estuaries SPA	3676.92	<p>The Stour and Orwell estuaries straddle the eastern part of the Essex/Suffolk border in eastern England. The estuaries include extensive mud-flats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. The mud-flats hold Enteromorpha, Zostera and Salicornia spp. The site also includes an area of low-lying grazing marsh at Shotley Marshes on the south side of the Orwell. In summer, the site supports important numbers of breeding Avocet <i>Recurvirostra avosetta</i>, while in winter they hold major concentrations of waterbirds, especially geese, ducks and waders. The geese also feed, and waders roost, in surrounding areas of agricultural land outside the SPA.</p> <p>The site has close ecological links with the Hamford Water and Mid-Essex Coast SPAs, lying to the south on the same</p>	<p>Annex I species:</p> <ul style="list-style-type: none"> <li>Over winter: Hen Harrier <i>Circus cyaneus</i></li> </ul> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter:</p> <ul style="list-style-type: none"> <li>Black-tailed Godwit <i>Limosa limosa islandica</i></li> <li>Dunlin <i>Calidris alpina alpina</i></li> <li>Grey Plover <i>Pluvialis squatarola</i></li> <li>Pintail <i>Anas acuta</i></li> <li>Redshank <i>Tringa totanus</i></li> <li>Ringed Plover <i>Charadrius hiaticula</i></li> <li>Shelduck <i>Tadorna tadorna</i></li> <li>Turnstone <i>Arenaria interpres</i></li> </ul> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl including:</p> <ul style="list-style-type: none"> <li>Cormorant <i>Phalacrocorax carbo</i></li> <li>Pintail <i>Anas acuta</i></li> <li>Ringed Plover <i>Charadrius hiaticula</i></li> <li>Grey Plover <i>Pluvialis squatarola</i></li> <li>Dunlin <i>Calidris alpina alpina</i></li> <li>Black-tailed Godwit <i>Limosa</i></li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has <b>been classified („the Qualifying Features“</b> listed below);</p> <p>Avoid the deterioration of the habitats of the 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.</p> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features;</li> <li>The structure and function of the habitats of the qualifying features;</li> <li>The supporting processes on which the habitats of the qualifying features rely;</li> <li>The populations of the qualifying features;</li> <li>The distribution of the qualifying features within the site.</li> </ul>	<p>There is pressure for increased port development and marine recreation in this area. Marine recreation is being addressed within the Estuary Management Plan. Port development is being considered by public inquiry. Maintenance dredging of the River Stour and River Orwell poses potential threats to the SPA but the activity is being addressed through the provisions of the Habitats Regulations. The saltmarsh is eroding, partly as a result of natural coastal processes; the beneficial use of dredgings is taking place to try to combat these processes.</p>

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		coast.	<p><i>limosa islandica</i></p> <ul style="list-style-type: none"> <li>• Redshank <i>Tringa tetanus</i></li> <li>• Shelduck <i>Tadorna tadorna</i></li> <li>• Great Crested Grebe <i>Podiceps cristatus</i></li> <li>• Curlew <i>Numenius arquata</i></li> <li>• Dark-bellied Brent Goose <i>Branta bernicla bernicla</i></li> <li>• Wigeon <i>Anas Penelope</i></li> <li>• Goldeneye <i>Bucephala clangula</i></li> <li>• Oystercatcher <i>Haematopus ostralegus</i></li> <li>• Lapwing <i>Vanellus vanellus</i></li> <li>• Knot <i>Calidris canutus</i></li> <li>• Turnstone <i>Arenaria interpres</i>.</li> </ul>		
Stour and Orwell Estuaries Ramsar site	3676.92	<p>Nearest town/city: Felixstowe</p> <p>The Stour Estuary forms the south-eastern part of Essex/Suffolk boundary. The Orwell Estuary is a relatively long and narrow estuary with extensive mudflats and some saltmarsh, running from Ipswich in the north, southwards towards Felixstowe.</p> <p>The Stour and Orwell Estuaries is a wetland of international importance, comprising extensive mudflats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. It provides habitats for an important assemblage of wetland</p>	<p>Ramsar criterion 2</p> <p>Contains seven nationally scarce plants:</p> <ul style="list-style-type: none"> <li>• Stiff saltmarsh-grass <i>Puccinellia rupestris</i></li> <li>• Small cord-grass <i>Spartina maritime</i></li> <li>• Perennial glasswort <i>Sarcocornia perennis</i></li> <li>• Lax-flowered sea lavender <i>Limonium humile</i></li> <li>• Eelgrasses <i>Zostera angustifolia</i>, <i>Z. marina</i> and <i>Z. noltei</i>.</li> </ul> <p>Ramsar criterion 5</p> <p>Assemblages of international importance; species with peak counts in winter; 63,017 waterfowl.</p> <p>Ramsar criterion 6 species/ populations</p>	N/A	<p><b>Erosion:</b> Natural coastal processes exacerbated by fixed sea defences, port development and maintenance dredging. Erosion is being tackled through sediment replacement for additional erosion that can be attributed to port development and maintenance dredging. A realignment site has been created on-site to make up for the loss of habitat due to capital dredging. General background erosion has not been tackled although a Flood Management Strategy for the site is being produced.</p>

Site Name	Area (ha) <sup>18</sup> <sup>19</sup>	Overview of site and its location <sup>20</sup>	Qualifying Features <sup>21 22</sup>	Conservation objectives (only available for SACs & SPAs) <sup>23</sup>	Key vulnerabilities / factors affecting site integrity <sup>24</sup>
		birds in the non-breeding season and supports internationally important numbers of wintering and passage wildfowl and waders. The site also holds several nationally scarce plants and British Red Data Book invertebrates.	<p>occurring at levels of international importance:</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> <li>• Common redshank , <i>Tringa totanus totanus</i></li> </ul> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• Dark-bellied brent goose, <i>Branta bernicla bernicla</i></li> <li>• Northern pintail , <i>Anas acuta</i></li> <li>• Grey plover , <i>Pluvialis squatarola</i></li> <li>• Red knot , <i>Calidris canutus islandica</i></li> <li>• Dunlin , <i>Calidris alpina alpina</i></li> <li>• Black-tailed godwit , <i>Limosa limosa islandica</i></li> <li>• Common redshank , <i>Tringa totanus totanus</i></li> </ul>		
Thames Estuary and Marshes SPA	4838.94	<p>Nearest town/city: Gravesend.</p> <p>Contains part of the north coast of Kent and part of the southern coast of Essex, straddling the Thames estuary.</p>	<ul style="list-style-type: none"> <li>• Supports the following internationally important waterbird assemblage: <i>Circus cyaneus</i> Hen harrier (Non-breeding)</li> <li>• <i>Recurvirostra avosett</i> Pied avocet (Non-breeding)</li> <li>• <i>Charadrius hiaticula</i> Ringed plover (Non-breeding)</li> <li>• <i>Pluvialis squatarola</i> Grey plover (Non-breeding)</li> <li>• <i>Calidris canutus</i> Red knot (Non-breeding)</li> <li>• <i>Calidris alpina alpina</i> Dunlin (Non-breeding)</li> <li>• <i>Limosa limosa islandica</i> Black-tailed godwit (Non-breeding)</li> <li>• <i>Tringa totanus</i> Common</li> </ul>	<p>With regard to the individual species and/or assemblage of species for which the site has been classified:</p> <ul style="list-style-type: none"> <li>• Avoid the deterioration of the habitats of the 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.</li> </ul> <p>Subject to natural change, to maintain or restore:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features;</li> <li>• The structure and function of the</li> </ul>	<p>There is evidence of <b>coastal squeeze</b> and <b>erosion of intertidal habitat</b> within the site. English Nature is in discussion with the port authority on the role of port dredging in intertidal habitat loss.</p> <p>The intertidal area is also vulnerable to <b>disturbance from water borne recreation</b>. This is being addressed by information dissemination as part of an estuary management plan.</p> <p>The terrestrial part of the site depends on appropriate</p>

Site Name	Area (ha) <sup>18</sup> <sup>19</sup>	Overview of site and its location <sup>20</sup>	Qualifying Features <sup>21 22</sup>	Conservation objectives (only available for SACs & SPAs) <sup>23</sup>	Key vulnerabilities / factors affecting site integrity <sup>24</sup>
			redshank (Non-breeding)	habitats of the qualifying features; <ul style="list-style-type: none"> <li>The supporting processes on which the habitats of the qualifying features rely;</li> <li>The populations of the qualifying features;</li> <li>The distribution of the qualifying features within the site.</li> </ul>	grazing and management of water. The <b>availability of livestock</b> may be affected by changes in agricultural markets. Evidence suggests that the <b>water supply</b> to grazing marsh has decreased. A water level management plan may address this. There has been great development pressure in recent years. Current implications of development include both <b>direct landtake</b> from the site and indirect disturbance and <b>hydrological effects</b> . These effects will be addressed through the Habitats Regulations.
Thames Estuary and Marshes Ramsar site	4838.94	Nearest town/city: Gravesend. Contains part of the north coast of Kent and part of the southern coast of Essex, straddling the Thames estuary.	<ul style="list-style-type: none"> <li>The site supports one endangered plant species and at least 14 nationally scarce plants of wetland habitats.</li> <li>The site also supports more than 20 British Red Data Book invertebrates. Assemblages of international importance 45118 waterfowl including the following species:</li> <li>Ringed plover <i>Charadrius hiaticula</i></li> <li>Black-tailed godwit <i>Limosa</i></li> </ul>	With regard to the individual species and/or assemblage of species for which the site has been classified: <ul style="list-style-type: none"> <li>Avoid the deterioration of the habitats of the 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.</li> </ul> Subject to natural change, to maintain or restore: <ul style="list-style-type: none"> <li>The extent and distribution of the</li> </ul>	<b>Dredging.</b> <b>Erosion.</b> The North Kent Coastal Habitat Management Plan (CHaMP) has been produced. The Environment Agency is producing a Flood Defence Strategy for the Thames (Thames 2100) and decisions on future flood risk management will need to take into account the effects on features within the designated sites. Studies of sediment transport and hydrodynamics within

Site Name	Area (ha) <sup>18</sup> <sub>19</sub>	Overview of site and its location <sup>20</sup>	Qualifying Features <sup>21 22</sup>	Conservation objectives (only available for SACs & SPAs) <sup>23</sup>	Key vulnerabilities / factors affecting site integrity <sup>24</sup>
			<p><i>limosa islandica</i></p> <ul style="list-style-type: none"> <li>• Grey plover <i>Pluvialis squatarola</i></li> <li>• Red knot <i>Calidris canutus islandica</i></li> <li>• Dunlin <i>Calidris alpina alpina</i></li> <li>• Common redshank <i>Tringa totanus totanus</i></li> </ul>	<p>habitats of the qualifying features;</p> <ul style="list-style-type: none"> <li>• The structure and function of the habitats of the qualifying features;</li> <li>• The supporting processes on which the habitats of the qualifying features rely;</li> <li>• The populations of the qualifying features;</li> <li>• The distribution of the qualifying features within the site.</li> </ul>	<p>Thames estuary. Investigation of beneficial use of dredgings for mudflat recharge and creation of compensatory habitat.</p> <p><b>Eutrophication</b> (hyper-nutritification from nitrogen and phosphorus). Water quality and sources of nutrient inputs are subject to further investigation by the Environment Agency as <b>part of the Agency's review</b> of consents under the Habitats Regulations.</p> <p>General <b>disturbance</b> from human activities.</p>

## **Appendix 2**

Review of other plans and projects

## County or district level plans providing for development

### Brentwood Borough Council Local Plan

<b>Plan Owner/ Competent Authority:</b>	Brentwood Borough Council
<b>Related work HRA/AA:</b>	None available - Brentwood Local Plan 2015-2030 Preferred Options published in 2013 but no HRA work yet carried out. Previous Local Plan published in 2005 was not subject to HRA.
<b>Notes on Plan documents:</b>	Brentwood Local Plan 2015-2030 Preferred Options published in July 2013. Development provided for includes 3,500 new dwellings during 2015-2030.

#### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The Brentwood Local Plan 2015-2030 Preferred Options state that whilst the results of the HRA Screening have yet to be confirmed, no significant effect is anticipated. Given the distance of the Plan area from any of the European sites within the scope of the HRA for the Basildon Core Strategy, in-combination effects are judged unlikely in any event.

### Castle Point Borough Council Local Plan

<b>Plan Owner/ Competent Authority:</b>	Castle Point Borough Council
<b>Related work HRA/AA:</b>	Habitat Regulation Assessment Screening Assessment Pre-consultation New Local Plan November 2013
<b>Notes on Plan documents:</b>	Draft policies for Pre-consultation New Local Plan not available on Council website; comments below are based on the published HRA of that Plan version. Development referred to in the HRA includes at least 4,035 new dwellings.

#### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

**Coastal squeeze: Policy CC2: Canvey Coastal Zone Management Area** requires the maintenance and enhancement of flood defences on Canvey Island to protect the resident population of around 40,000 people. This would result in coastal squeeze affecting the extent of the Benfleet and Southend Marshes SPA, and requiring compensatory provision of habitat. It is not possible to achieve this in Castle Point alone due to its size. The policy in the New Local Plan is based on the policy in the Thames Estuary 2100 Plan. This plan for the Thames Estuary identifies both areas that need protection from flooding and areas for new habitat creation to compensate for the loss of European sites through coastal squeeze. The impacts of policy CC2 are therefore addressed in combination with the Thames Estuary 2100 Plan. The Greater Thames Marshes Nature Improvement Area Business Plan sets out mechanisms for delivering these compensatory habitats.

**Physical disturbance, biological disturbance and water pollution from shipping: Policy E10: Port Related Activities** had the potential to allow for additional shipping activity in the Thames Estuary which may cause direct disturbance to estuary and marshland habitat through increased wash from ships, and also through biological disturbance through increased risk of the introduction of invasive species on the hulls of ships. The Local Plan HRA has recommended policy changes to Policy E10 to reduce the potential harm; residual risks will need to be addressed via project level HRA which may reduce the scope of development which can occur at South Canvey.

**Hub airport (in-combination project):** Any proposals for a hub airport in the Thames Estuary will have a significant in-combination effect on European sites. If such proposals are pursued by the Government it will be necessary to amend the New Local Plan. However, it is likely that it take such time for any decision on this matter

## Castle Point Borough Council Local Plan

to be made, and many years before such a proposal could be delivered. It does not therefore threaten the integrity of the New Local Plan at this time.

**Recreational disturbance (in-combination with other plans and projects):** There is widespread acknowledgement amongst districts that good quality open space provision within new developments minimises recreational pressure on European sites. This will need to be achieved through engagement with other districts during their plan-making process (Duty to Cooperate).

## Chelmsford City Council Core Strategy and Development Control Policies DPD

<b>Plan Owner/ Competent Authority:</b>	Chelmsford City Council
<b>Related work HRA/AA:</b>	Appropriate Assessment of the Chelmsford Core Strategy and Development Control Policies Submission Document DPD November 2006  Core Strategy and Development Control Policies Focused Review Sustainability Appraisal Report and HRA Screening Final Report February 2013
<b>Notes on Plan documents:</b>	2006 Chelmsford Core Strategy and Development Control Policies Submission Document DPD plus 2013 'Focused Review' which made changes to the DPD to improve compatibility with the NPPF.  Development provided for includes 16,170 new houses during 2001-2021.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The HRA Screening of the Submission DPD identified likely significant effects from four development control policies:

- **DC3: Managing development density in different locations**, due to the proximity of housing development provided for at South Woodham Ferrers to Crouch and Roach Estuaries SPA and Ramsar site and consequent potential for **recreational disturbance**.
- **DC54: Promotion of employment clusters**, due to the proximity of employment development provided for at South Woodham Ferrers to Essex Estuaries SAC and Crouch and Roach Estuaries SPA and Ramsar site and consequent potential for **water pollution, direct habitat loss** and **recreational disturbance**.
- **DC55: Location of business development**, due to the proximity of employment development provided for at Battlesbridge an South Woodham Ferrers to Essex Estuaries SAC and Crouch and Roach Estuaries SPA and Ramsar site and consequent potential for **water pollution, direct habitat loss** and **recreational disturbance**.
- **DC56: Industrial and warehouse development**, due to the proximity of employment development provided for at South Woodham Ferrers to Essex Estuaries SAC and Crouch and Roach Estuaries SPA and Ramsar site and consequent potential for **water pollution, direct habitat loss** and **recreational disturbance**.

Recommended policy changes requiring protection of internationally designated nature conservation sites were deemed sufficient to address these potential effects.

The HRA Screening of the 2013 'Focused Review' of the Core Strategy did not identify any likely significant effects on European sites from the policy changes alone. The contribution of the policy changes to potential in-combination effects with other plans and projects was considered not significant.

## Gravesham District Local Plan Core Strategy (Kent)

<b>Plan Owner/ Competent Authority:</b>	Gravesham Borough Council
<b>Related work HRA/AA:</b>	HRA of Proposed Submission Core Strategy December 2012 HRA Addendum Report November 2013
<b>Notes on Plan documents:</b>	Proposed Submission Local Plan Core Strategy December 2012 is currently undergoing examination; proposed modifications and an accompanying HRA Addendum have been prepared in response to the Inspector's comments. Development provided for includes at least 6,170 new dwellings during 2011-2028.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The following types of potential likely significant effect were identified:

- **Recreational disturbance:** the HRA screening identified potential likely significant effects on Medway Estuary and Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site in-combination with development in surrounding districts but Basildon was not identified as one of these since all of the former and almost all of the latter European site are separated from Basildon by the Thames Estuary with the nearest fixed link crossing point, the Dartford Tunnel a significant distance upstream. Significant effects on integrity were ruled out by reliance on existing Core Strategy policies requiring provision of alternative recreation space and on recommended additions to the Core Strategy, including commitments to implement the findings of the bird population and visitor studies commissioned by the North Kent Environmental Planning Group and to adopt a flexible approach that enables development plan documents to be reviewed in the light of emerging evidence.
- **Water levels and quality:** the HRA screening identified potential likely significant effects on Medway Estuary and Marshes SPA and Ramsar site due to cumulative increases in water abstraction, consented discharges and surface water run-off in-combination with development in surrounding districts, although Basildon was not identified as one of these. Significant effects on integrity were ruled out by reliance on existing Core Strategy policies to minimise the impact of drainage from new development and reduce the impact of new development on water resources as well as regulatory processes operated by the Environment Agency.

## Maldon District Local Development Plan

<b>Plan Owner/ Competent Authority:</b>	Maldon District Council
<b>Related work HRA/AA:</b>	Maldon District Council Draft Local Development Plan Sustainability Appraisal Report incorporating Strategic Environmental Assessment and Habitats Regulations Assessment July 2013
<b>Notes on Plan documents:</b>	The Council carried out consultation in August/September 2013 on a Draft of the Local Development Plan; consultation on the Pre-submission Plan is scheduled for early 2014. Development provided for in the Draft Plan includes at least 4,410 dwellings during 2014-2029.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

A number of individual policies were identified as having potential likely significant effects:

- **S2 Strategic Growth:** Potential pressure from housing growth on **water resources** and **water quality** could affect condition of Blackwater Estuary SPA and Ramsar site and Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site but adequate protection judged to exist from the Environment

## Maldon District Local Development Plan

Agency's abstraction and effluent discharge consenting regimes. Potential **recreational pressure** from additional housing to the south of Maldon town and north of Heybridge but unlikely to significantly increase existing recreational pressure from these settlements and mitigation provided in the form of additional open space.

- **S4 Maldon and Heybridge Garden Suburbs:** Potential **recreational pressure** from additional housing at Maldon town and Heybridge but unlikely to significantly increase existing recreational pressure from these settlements and mitigation provided in the form of additional open space.

Concluded that there will not be any significant adverse effects on the integrity of European sites alone or in-combination from the Maldon District LDP.

## Medway Borough (Kent)

<b>Plan Owner/ Competent Authority:</b>	Medway Borough Council
<b>Related work HRA/AA:</b>	N/A
<b>Notes on Plan documents:</b>	Medway Core Strategy was withdrawn from examination in November 2013 following Natural England's designation of one of the Plan's strategic allocations as a SSSI

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

N/A

## Rochford District Core Strategy

<b>Plan Owner/ Competent Authority:</b>	Rochford District Council
<b>Related work HRA/AA:</b>	Habitats Regulations Assessment Screening of Rochford Core Strategy, January 2010
<b>Notes on Plan documents:</b>	Core Strategy adopted December 2011 Development provided for includes a minimum of 4,600 dwellings during 2001-2021.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The following types of potential likely significant effect were identified:

- **Recreational disturbance:** Potential for effects reduced by the fact that the west of the District contains the majority of the existing population and settlements and that new development will be focused on previously developed land in and around these settlements. Provision for new open space and alternative recreational opportunities judged sufficient to rule out likely significant effects.
- **Air pollution:** As for disturbance, potential for likely significant effects due to air pollution from road traffic reduced by the distance between centres of population and European sites in the District. Core strategy policies to protect air quality, existing Council monitoring of air quality and lack of evidence that European sites are vulnerable to poor air quality judged sufficient to rule out likely significant effects.
- **Water resources:** Likely significant in-combination effects on European sites due to increased water abstraction to serve new development and deficit during

## Rochford District Core Strategy

dry years identified by the Essex Thames Gateway Water Cycle Study 2009 Scoping Study. To avoid likely significant in-combination effects, HRA recommended that wording was inserted into Core Strategy specifying that development proposals must ensure that their water supply needs can be met without adverse effects on the integrity of a European site and that the findings of the HRA Screening were reviewed once the final stages of the Water Cycle Study were completed.

- **Water quality:** Uncertainty meant that likely significant in-combination effects could not be ruled out on Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site due to increased pressure on sewer and WwTW capacity from new development. To avoid likely significant in-combination effects, HRA recommended that Annual Monitoring Report incorporates a requirement for annual monitoring by the EA of the chemical and biological quality of the Crouch and Roach Estuaries to address the uncertainty. If the monitoring reveals that water quality has deteriorated, the Council should consult with the EA and NE to determine the most appropriate course of action.

## Swale Borough Local Plan Part I (Kent)

<b>Plan Owner/ Competent Authority:</b>	Swale Borough Council
<b>Related work HRA/AA:</b>	A HRA has not yet been published; reference was made to sections of the SA for the Draft Local Plan 2013 relating to biodiversity.
<b>Notes on Plan documents:</b>	Draft Local Plan Part I (previously known as the Core Strategy) was published for consultation in August 2013. Development provided for includes 10,800 dwellings for 2010-2031.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The SA of the Draft Local Plan concludes that *"...the plan will deliver significant positive effects on the Borough's biodiversity and natural environment baseline. Although this is somewhat uncertain as detailed evidence to determine the likely significance of effects on internationally and nationally designated biodiversity sites arising from the policies allocating locations for development is not yet available. At this stage it is expected any significant effects can be mitigated."*

## Thurrock Council Core Strategy

<b>Plan Owner/ Competent Authority:</b>	Thurrock Council
<b>Related work HRA/AA:</b>	Thurrock Proposed Submission Core Strategy and Policies for Management of Development DPD Habitats Regulations Assessment August 2010; HRA Addendum Report for Core Strategy Focussed Review, May 2013.
<b>Notes on Plan documents:</b>	Core Strategy Adopted December 2011 plus Focussed Review currently at EiP stage; the Main Modifications proposed by the latter have been subject to an HRA addendum. Development provided for includes 13,550 new dwellings during 2009-2021 plus an indicative 4,750 during 2021-2026.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The following types of potential likely significant effect were identified but adverse effects on site integrity were ruled out after full Appropriate Assessment:

## Thurrock Council Core Strategy

**Coastal squeeze:** Potential effects on Thames Estuary and Marshes SPA and Ramsar ruled out due to development being more than 700 m from the European site and caveats within policies on waste and renewable energy development requiring avoidance of effects on European sites.

**Recreational disturbance:** Potential effects on Thames Estuary and Marshes SPA and Ramsar site ruled out due to provision of alternative recreational facilities, including a country park, commitments to management of existing open space and provisions within Thurrock Green Grid Strategy for creation and maintenance of green space and access restrictions. Thurrock Council have committed to working with the Thames Estuary Partnership (TEP) in order to manage recreation and monitor disturbance, such that the need for any enhanced measures to manage waterborne access can be delivered at the appropriate time. The HRA recommended that these be developed further in conjunction with the TEP in a cohesive management strategy which may need to be informed by visitor surveys of the SPA to **determine patterns of recreational use with Thurrock's contribution commensurate with its population size**. Recreational disturbance to Essex Estuaries SAC and component Mid-Essex Coast SPA/Ramsar sites ruled out due to existing recreation management plans at some of these European sites and **Thurrock Council's** commitment to working with TEP.

**Air quality:** Air quality reductions were not considered to pose likely significant effects on the Thames Estuary and Marshes SPA and Ramsar site. A consented power station at Tilbury (Tilbury Green Power) had been assessed and found not to require HRA. Core Strategy policies allow for the possibility of further renewable energy and/or waste sites, especially at Tilbury or London Gateway which would need to be subject to environmental assessment that should include consideration of the need for project-level HRA.

**Water quality:** Thames Estuary and Marshes SPA and Ramsar site was not considered to be particularly vulnerable to the effects of smothering macro-algal growth that nutrient enrichment has created in south coast waters. However, it was considered that reference should be included in the Core Strategy to the Thurrock Water Cycle Study and in particular to phasing of development in line with the WCS, in order to provide security that adverse effects on European sites would not result. Essex Estuaries SAC and component Mid-Essex Coast SPA/Ramsar also not considered particularly vulnerable to nutrient enrichment and their location in relation to the Plan area means that large dilution factors will apply. As for Thames Estuary and Marshes SPA and Ramsar site, the HRA recommended reference be made in the Plan to phasing of development in line with the WCS.

**London Gateway Port (in-combination project):** The policies of the Core Strategy were considered to have the potential for in-combination effects with the development of London Gateway Port on Thames Estuary and Marshes SPA and Ramsar site. Mitigation measures have been approved for this scheme, and the HRA concluded that provided that these are adopted, there is no residual in combination impact likely through disturbance, reduced air quality reduced water quality or coastal squeeze.

## Essex Minerals Local Plan

<b>Plan Owner/ Competent Authority:</b>	Essex County Council
<b>Related work HRA/AA:</b>	Essex County Council Replacement Minerals Local Plan: Pre Submission Draft Habitats Regulations Assessment Report November 2012
<b>Notes on Plan documents:</b>	Essex County Council Replacement Minerals Local Plan: Pre Submission Draft Plan sets out the broad locations where future mineral extraction and associated development will be preferred, and the areas where mineral extraction is discouraged, preferred sites and development management policies.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

**Air quality:** Likely significant effects from increased heavy goods vehicle traffic on roads in proximity to European sites ruled out following amendment of the Plan to include supporting text requiring an air quality analysis where any proposal would result in an increase of more than 200 HGV movements per day within 200 m of a European site.

## Essex Minerals Local Plan

**Predation:** Following completion of mineral extraction it is common for minerals sites to be used for landfill. Landfill sites can attract large number of birds such as gulls or crows which can have an adverse predation effect on nesting birds at wildlife sites within 5 km of the landfill (particularly ground nesting species). Preferred minerals sites allocated by the Plan include ones within 5 km of Abberton Reservoir SPA and Ramsar site (wintering and passage waterfowl and cormorant populations sensitive to predation) and Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar site (little tern population particularly sensitive to predation). Likely significant predation effects were ruled out on the basis that the Plan adopt recommendations to prevent putrescible waste being sent for landfill at the relevant, preferred minerals sites.

## Essex Waste Local Plan

<b>Plan Owner/ Competent Authority:</b>	Essex County Council
<b>Related work HRA/AA:</b>	Essex Waste Development Document – Preferred Approach Habitat Regulations Assessment – Screening Report, September 2011 Essex Waste Development Document – Potential Sites - Habitat Regulations Assessment Screening Report, September 2011
<b>Notes on Plan documents:</b>	Essex Replacement Waste Local Plan, The Preferred Approach 2013  The Waste Local Plan comprises the Waste Core Strategy, setting out the long-term direction for waste development and the plan to deliver this strategy; Development Management Policies for waste planning particularly when considering applications; Strategic Site Allocations for waste-related development; Non-Strategic Site Allocations for other preferred sites for waste processing plus any associated safeguarding and a Policies (previously Proposals) Map.

### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The HRA of Preferred Approaches ruled out likely significant effects on any European site, particularly due to the need to comply with a policy requirement for all waste management developments to avoid unacceptable impacts on internationally designated biodiversity sites.

The HRA of potential waste sites was unable to rule out the following likely significant effects:

**Noise:** Unable to rule out likely significant noise disturbance effects from waste recycling and storage operations at site W12 Ballast Quay/Fingringhoe and site W14 Alresford Quarry on wildfowl interest of Colne Estuary SPA/Ramsar site. Recommended that sites are either not taken forward or is subject to project level HRA. Noise effects on Colne Estuary SPA/Ramsar site were deemed less likely for sites L1 Towerfield/Fingringhoe, L2 Holmwood Farm/Fingringhoe, and L13R Wellwick, St Osyth but project level HRA was nevertheless recommended on a precautionary basis to rule out likely significant effects.

**Water quality:** Unable to rule out likely significant water quality effects on European sites from increased shipping movements or dredging associated with site W12 Ballast Quay/Fingringhoe.

## Essex Local Transport Plan 3 2011-2026 (LTP3)

<b>Plan Owner/ Competent Authority:</b>	Essex County Council
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### Essex Local Transport Plan 3 2011-2026 (LTP3)

<b>Related work HRA/AA:</b>	HRA Screening Report June 2011
<b>Notes on Plan documents:</b>	<p>Essex Transport Strategy: the Local Transport Plan for Essex, June 2011</p> <p>Transport priorities for the Thames Gateway, the part of Essex in which Basildon is located, are:</p> <ul style="list-style-type: none"><li>• Providing for and promoting access by sustainable modes of travel to new development areas;</li><li>• Improving public transport links within and between the Thames Gateway towns (including the A13 Passenger Transport Corridor and sert schemes);</li><li>• Improving the availability of sustainable travel choices and raising public awareness of these through travel planning;</li><li>• Addressing maintenance, signing and broken links in the cycle network to improve conditions for cyclists and create a safer atmosphere for cycling.</li><li>• Improving the attractiveness and ease of use of public spaces to support regeneration;</li><li>• Improving journey time reliability on strategic inter-urban routes including the A127, A129, A130 and the A13;</li><li>• Improving access to London Gateway port and Southend Airport.</li></ul>

#### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The protective approach specified by Policy 9 of the LTP3, the provision of policies which promote a modal shift away from private car use (Policies 4, 7, 8, 14 and 15), and the flexibility inherent in the Essex LTP3 which allows for manipulation of future plans and projects to avoid impacts on N2K sites, means that the ecological integrity of all Natura 2000 sites located within the zone of influence of the Essex LTP3 would not be adversely affected by the LTP3 or its policies.

### London Southend Airport and Environs Joint Area Action Plan (JAAP)

<b>Plan Owner/ Competent Authority:</b>	Southend on Sea Borough Council and Rochford District Council
<b>Related work HRA/AA:</b>	HRA Report January 2013
<b>Notes on Plan documents:</b>	<p>Submission version of Plan is currently undergoing examination</p> <p>The JAAP seeks development of London Southend Airport, including by: runway extension, to increase the number of passenger movements; employment development to attract high-tech industries and offices; and highway network improvements to cater for increased traffic flows.</p>

#### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

HRA Screening was unable to rule out the following types of likely significant effects alone or in-combination at Benfleet and Southend Marshes SPA and Ramsar site, Crouch and Roach Estuaries SPA and Ramsar site, and at Essex Estuaries SAC:

**Increased water abstraction:** Appropriate assessment ruled out adverse effects on integrity of European sites alone or in-combination due to the low vulnerability of interest features to changes in salinity linked to increased abstraction and due to mitigation provided by other plans and programmes.

## London Southend Airport and Environs Joint Area Action Plan (JAAP)

**Water pollution** from increased wastewater discharge or increased surface run-off from impermeable surfaces: Appropriate assessment ruled out adverse effects on integrity of European sites alone or in-combination from increased wastewater discharges due to the findings of the South Essex Outline Water Cycle Study Technical Report (Sept 2011). Adverse effects on site integrity linked to water pollution from urban run-off were ruled out due to the mitigating policies on water quality and requirements for Sustainable Drainage Systems within the two districts' Core Strategies.

## Major infrastructure projects<sup>25</sup>

### Perry's Farm, Isle of Grain, Kent

<b>Plan Owner/ Competent Authority:</b>	Planning Inspectorate
<b>Related work HRA/AA:</b>	Not yet carried out
<b>Notes on project:</b>	Proposed hazardous waste management facility at Perry's Farm on the Isle of Grain, Kent. Project information drawn from request for EIA Scoping Opinion. <sup>26</sup>

#### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

Proposed waste management facility for the disposal of hazardous waste by landfill and the treatment of hazardous waste at a site on the Isle of Grain located approximately 500 m south of the River Thames. The request for an EIA Scoping Opinion identifies the possibility of indirect impacts on designated biodiversity sites in relation to noise, air quality, dust and hydrology. An HRA screening assessment will be conducted which will include the potential for likely significant effects on Thames Estuary and Marshes SPA and Ramsar site.

### Tilbury Gas Fired Power Station, Thurrock

<b>Plan Owner/ Competent Authority:</b>	Planning Inspectorate
<b>Related work HRA/AA:</b>	Not yet carried out
<b>Notes on Plan documents:</b>	RWE npower is proposing to develop a new combined cycle gas turbine (CCGT) power station on the Tilbury Power Station site in Thurrock. The proposed new gas station would be known as Tilbury C and would replace the generating capacity of the currently operational Tilbury B coal-fired power station.

#### Conclusions on potential effects of relevance to European sites within scope of HRA of Basildon Core Strategy

The site is 2.2 km from the Thames Estuary and Marshes SPA and Ramsar site and includes land which is known to support important populations of avocet and hen harrier (for which Thames Estuary SPA is designated)<sup>27</sup>. Potential types of in-combination effects on Thames Estuary and Marshes SPA and Ramsar site are uncertain

<sup>25</sup> National Infrastructure Planning website <http://infrastructure.planningportal.gov.uk/>

<sup>26</sup> SLR Consulting, Perry's Farm Isle of Grain Request for Scoping Opinion, November 2013

## Tilbury Gas Fired Power Station, Thurrock

until an HRA is carried out but may **include loss of supporting habitat for internationally designated bird populations, noise, air quality, dust and hydrology.**

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<sup>27</sup> RWE npower, Environmental Impact Assessment Scoping Report for Proposed Tilbury C Combined Cycle Gas Turbine Power Station, July 2010.