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# Basildon Borough Local Plan HRA Report

## Habitats Regulations Assessment

Prepared by LUC  
October 2018

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**Project Title:** Habitats Regulations Assessment

**Client:** Basildon Borough Council

Version	Date	Version Details	Prepared by	Checked by	Approved by
1.0	18/12/2015	Issue for consultation	Jon Pearson, Kieran Moroney, Ciara McGuinness	Jon Pearson	Jeremy Owen
2.0	23/02/2017	Updated in light of Natural England consultation	David Green	David Green	Jeremy Owen
3.0	07/03/2018	HRA of Regulation 19 Local Plan	David Green	David Green	Jeremy Owen
3.1	14/03/2018	HRA of Regulation 19 Local Plan – updated following BBC comments	David Green	David Green	Jeremy Owen
4.0	19/09/2018	HRA of Regulation 19 Local Plan updates	David Green	David Green	Jeremy Owen
5.0	09/10/2018	Final Reg. 19 Report post new Council Strategic Planning and Infrastructure Committee Final Amendments	J. Allen	J. Allen	J. Owen

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# 1 Introduction

- 1.1 Basildon Borough Council ('the Council') is preparing a new Local Plan to replace the policies in the 2007 Saved Policies from the Basildon District Plan, adopted in 1998, and to set out an overall framework for the development of the Borough up to 2034.
- 1.2 LUC has been appointed by the Council to undertake Habitats Regulations Assessment (HRA) of the Local Plan on its behalf. This HRA Report has been prepared for the purposes of consultation under Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2017. This report should therefore be read in conjunction with the Regulation 19 Basildon Borough Publication Local Plan.
- 1.3 The first version of this HRA was prepared in December 2015. A draft Regulation 19 version of the HRA was produced in response to consultation comments received by Natural England (24.03.2016) which identified outstanding issues relating to recreational pressures, reduced water quality, and flood risk. This report updated the Screening Assessment by providing additional information to address the Natural England comments, and provides the Appropriate Assessment stage. Those aspects of the Local Plan for which likely significant effects could not be ruled out, were assessed at the Appropriate Assessment stage to identify whether, in light of avoidance and mitigation measures, the plan will result in adverse effects on the integrity of the European Sites, in accordance with the requirements of the Habitat Regulations. Where necessary, additional safeguards or modifications to the plan were recommended.
- 1.4 This latest version of the HRA assesses the final Regulation 19 Publication Local Plan, and been amended to take into account a recent CJEU ruling (People over Wind, Peter Sweetman v Coillte Teoranta (Case C-323/17)) which ruled that Article 6(3) of the Habitats Directive should be interpreted as meaning that mitigation measures, specifically measures which avoid or reduce adverse effects, should be assessed as part of an Appropriate Assessment, and should not be taken into account at the Screening stage. In light of this, where necessary the HRA has been re-structured to ensure that avoidance and mitigation measures have not been relied upon in reaching conclusions of no likely significance at the Screening stage.

## Background to the preparation of the new Local Plan

- 1.5 In December 2014, the Council's Cabinet agreed to commence work on a Local Plan for the Borough. Prior to that, the Council had been working on the preparation of a Local Development Framework comprising a suite of three documents: A Core Strategy; a Site Allocations and Development Management Policies Document; and a Gypsy, Traveller and Travelling Showpeople Policies Document. At that time, work had only been undertaken on the Core Strategy.
- 1.6 The Core Strategy was intended to set out the Borough-wide strategy for the coordination of development until 2031. It set out the Council's Spatial Vision and Strategic Objectives, and the Spatial Strategy and Strategic Policies for delivering these. The Core Strategy had been through several iterations, the most recent of which was the *Core Strategy Revised Preferred Options Report*. This was the subject of consultation from January to March 2014.
- 1.7 The consultation on the *Core Strategy Revised Preferred Options Report* gave rise to over 10,000 consultation comments addressing a range of issues. A key issue arising from these comments was the need for more detail to be provided around the allocation of land to meet the need for development and change going forward, and the infrastructure required to support such growth. To address this, a comprehensive approach to plan-making which incorporated not only the preparation of a spatial strategy and strategic policies, but also the allocation of land and the preparation of development management policies was identified as a mechanism by which this additional detail could be provided to the satisfaction of consultees. This gave rise to the change of approach taken in December 2014.

- 1.8 It was also initially proposed that policies regarding the accommodation needs of gypsies, travellers and travelling show people would be set out in a separate document. However, it could be considered that this would constitute discrimination, and could potentially be contrary to the public equality duty set out in the Equalities Act 2010. As such, policies relating to meeting the needs of gypsies, travellers and travelling showpeople are now included within the Local Plan.
- 1.9 In June 2018, the Council's planning committee tabled policy changes to the Local Plan and drafted new and revised policies. The changes, which are relatively minor and have been assessed as part of this updated HRA, include the removal of allocations/homes, modifications to the delivery of homes, modification to gypsy and traveller provision, and the addition of new alternative site allocation options.

## The requirement to undertake Habitats Regulations Assessment of Development Plans

- 1.10 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> and again in 2012<sup>2</sup> and 2017<sup>3</sup>. Therefore when preparing the new Local Plan, the Council is required by law to carry out an HRA although consultants can undertake the HRA on its behalf. The requirement for authorities to comply with the Habitats Regulations when preparing a Local Plan is explained in the online National Planning Practice Guidance (NPPG).
- 1.11 The HRA refers to the assessment of the potential effects of a development plan on one or more Natura 2000 sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs):
- SPAs are classified under the European Council Directive 'on the conservation of wild birds' (79/409/EEC; 'Birds Directive') for the protection of wild birds and their habitats (including particularly rare and vulnerable species listed in Annex 1 of the Birds Directive, and migratory species).
  - SACs are designated under the Habitats Directive and target particular habitats (Annex 1) and/or species (Annex II) identified as being of European importance.
- 1.12 Potential SPAs (pSPAs)<sup>4</sup>, candidate SACs (cSACs)<sup>5</sup>, Sites of Community Importance (SCIs)<sup>6</sup> and Ramsar sites should also be included in the assessment.
- Ramsar sites support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971).
- 1.13 For ease of reference during HRA, these designations can be collectively referred to as European sites, despite Ramsar designations being at the international level. The term 'European site' is interchangeable with the term 'Natura 2000 site' in the context of HRA. The former term is used throughout this report.
- 1.14 The overall purpose of the HRA is to conclude whether or not a proposal or policy, or whole development plan, would adversely affect the integrity of the site in question either alone or in combination with other plans. 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, and Annex I bird populations for which it has been designated). Significantly, HRA is based on the precautionary principle meaning that where uncertainty or doubt remains, an adverse impact should be assumed.

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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.

<sup>2</sup> The Conservation of Habitats and Species (Amendment) Regulations 2012. Statutory Instrument 2012 No. 1927.

<sup>3</sup> The Conservation of Habitat and Species (Amendment) Regulations 2017.

<sup>4</sup> Potential SPAs are sites that have been approved by Government and are currently in the process of being classified as SPAs.

<sup>5</sup> Candidate SACs are sites that have been submitted to the European Commission, but not yet formally adopted.

<sup>6</sup> SCIs are sites that have been adopted by the European Commission but not yet formally designated as SACs by the Government.

## Stages of the Habitats Regulations Assessment

1.15 **Table 1.1** summarises the stages involved in carrying out a full HRA, based on various guidance documents<sup>7,8,9</sup>.

**Table 1.1 Stages in HRA**

Stage	Task	Outcome
Stage 1: Screening (the 'Significance Test')	Description of the plan. Identification of potential effects on European Sites. Assessing the effects on European Sites.	Where effects are unlikely, prepare a 'finding of no significant effect report'. Where effects judged likely, or lack of information to prove otherwise, proceed to Stage 2.
Stage 2: Appropriate Assessment (the 'Integrity Test')	Assess whether the Plan will adversely affect the integrity of the sites qualifying features (taking into account potential mitigation provided by other policies in the plan). Gather information (plan and European Sites). Impact prediction. Evaluation of impacts in view of conservation objectives. Where impacts considered to affect qualifying features, identify alternative options. Assess alternative 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.
Stage 3: Assessment where no alternatives exist and adverse impacts remain taking into account mitigation	Identify and demonstrate 'imperative reasons of overriding public interest' (IROPI). Demonstrate no alternatives exist. Identify potential compensatory measures.	This stage should be avoided if at all possible. The test of IROPI and the requirements for compensation are extremely onerous.

1.16 In assessing the effects of the Basildon Borough Local Plan in accordance with Regulation 102 of the Conservation of Habitats and Species Regulations 2017, there are potentially two tests to be applied by the competent authority: a 'Significance Test', followed if necessary by an Appropriate Assessment which will inform the 'Integrity Test'. The relevant sequence of questions is as follows:

- Step 1: Under Reg. 105(1)(b), consider whether the plan is directly connected with or necessary to the management of the sites. If not, proceed to Step 2.
- Step 2: Under Reg. 105(1)(a) consider whether the plan is likely to have a significant effect on the site, either alone or in combination with other plans or projects (the 'Significance Test'). *[These two steps are undertaken as part of Stage 1: Screening shown in Table 1.1 above.]* If so, proceed to Step 3.
- Step 3: Under Reg. 105(1), make an Appropriate Assessment of the implications for the site in view of its current conservation objectives (the 'Integrity Test'). In so doing, it is mandatory under Reg. 105(2) to consult Natural England, and optional under Reg. 105(3) to take the opinion of the general public. *[This step is undertaken during Stage 2: Appropriate Assessment shown in Table 1.1 above.]*

<sup>7</sup> *Assessment of plans and projects significantly affecting Natura 2000 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>8</sup> *Planning for the Protection of Natura 2000 sites. Guidance for Regional Spatial Strategies and Local Development Documents.* Department for Communities and Local Government (DCLG), August 2006.

<sup>9</sup> *The Appropriate Assessment of Spatial Plans in England. A guide to why, when and how to do it.* RSPB. August 2007.

- Step 4: In accordance with Reg. 105(4), but subject to Reg. 107, give effect to the land use plan only after having ascertained that the plan will not adversely affect the integrity of the European site.
- 1.17 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 avoidance measures, and at Stage 2 through the inclusion of mitigation measures designed to avoid, reduce or abate effects. The need to consider alternatives could imply more onerous changes to a plan document. It is generally understood that so called 'imperative reasons of overriding public interest' (IROPI) are likely to be justified only very occasionally and would involve engagement with both the Government and European Commission.
- 1.18 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. The HRA also requires close working with Natural England as the statutory nature conservation body<sup>10</sup> in order to obtain the necessary information and agree the process, outcomes and any mitigation proposals. The Environment Agency, while not a statutory consultee for the HRA, is also in a strong position to provide advice and information throughout the process as it is required to undertake HRA for its existing licences and future licensing of activities.

## HRA work carried out previously for the Core Strategy

- 1.19 As described above, the Basildon Borough Core Strategy reached a late stage in its development before being withdrawn, and the Core Strategy was subject to HRA by LUC throughout its development. The most recent HRA Report for the Core Strategy was produced in January 2014 in relation to the Preferred Options draft of the Core Strategy.
- 1.20 Therefore, there is already a body of relatively recent HRA work which has been drawn on, where relevant, to inform the HRA of the Local Plan. The HRA of the new Local Plan is, however, being carried out as a separate process to the earlier HRA of the Core Strategy and any information drawn from the HRA of the Core Strategy has been fully reviewed and updated where necessary.

## Structure of this report

- 1.21 This chapter (**Chapter 1**) has described the background to the production of the Basildon Borough Local Plan and the requirement to undertake HRA. The remainder of the report is structured into the following sections:
- **Chapter 2: The Local Plan** summarises the content of the Local Plan which is the subject of this HRA report.
  - **Chapter 3: HRA Screening methodology** sets out the approach taken and the tasks carried out during the Screening stage of the HRA.
  - **Chapter 4: HRA Screening assessment** summarises the findings of the HRA Screening and concludes as to whether significant effects on European sites are likely to result from the implementation of the Local Plan and, if so, will require further assessment at the Appropriate Assessment stage.
  - **Chapter 5: Appropriate Assessment** concludes whether aspects of the Local Plan, for which likely significant effects could not be ruled out, will adversely affect the integrity of European sites, or whether mitigation and avoidance measures can be built into the Local Plan which would ensure no such effect.
  - **Chapter 6: Conclusion** summarises the conclusion of the HRA and mitigation measures required to ensure no adverse effect on integrity.

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<sup>10</sup> Regulation 5 of *The Conservation of Habitats and Species Regulations 2010*. HMSO Statutory Instrument 2010 No. 490.

## 2 The Local Plan

- 2.1 Basildon Borough Council, as the Local Planning Authority (LPA), is preparing a Local Plan in accordance with the Planning and Compulsory Purchase Act, 2004, and the Town and Country Planning (Local Planning) (England) Regulations 2012<sup>11</sup>.
- 2.2 The Basildon Borough Local Plan will replace the Local Plan Saved Policies, which were approved by a Direction from the Secretary of State, as adopted local planning policies, saved from the Basildon District Local Plan 1998, which expired on 27th September 2007.
- 2.3 The Basildon Borough Local Plan is being prepared in accordance with the approved Local Development Scheme (2017-2019)<sup>12</sup>.
- 2.4 The Local Plan is a Borough wide plan to coordinate the development and growth requirements of the Borough for the period 2014 to 2034. Chapters 1 to 4 of the Publication Local Plan include an introduction, the policy context including Government policy, a spatial portrait of the Borough, and a description of the drivers for change that the Council has taken into account when preparing the Local Plan.
- 2.5 The vision and objectives for future development and change within Basildon Borough are set out in Chapter 5 of the Publication Local Plan, and these are followed by a series of chapters that contain the planning policies that set out the approach to growth, distribution and management of development across the Borough in order to achieve a sustainable development:
- Chapter 6 – Achieving Sustainable Development.
  - Chapter 7 – Building a Strong, Competitive Economy.
  - Chapter 8 – Ensuring the Vitality of Town Centres.
  - Chapter 9 – Promoting Sustainable Transport.
  - Chapter 10 – Supporting High Quality Communications Infrastructure.
  - Chapter 11 – Delivering a Wide Choice of High Quality Homes.
  - Chapter 12 – Requiring Good Design.
  - Chapter 13 – Promoting Healthy Communities.
  - Chapter 14 – Protecting Green Belt Land.
  - Chapter 15 – Meeting the Challenge of Climate Change and Flooding.
  - Chapter 16 – Conserving and Enhancing the Natural Environment.
  - Chapter 17 – Conserving and Enhancing the Historic Environment.
- 2.6 The implementation, monitoring and review arrangements for the Publication Local Plan are contained in Chapter 18.
- 2.7 The Publication Local Plan includes the following types of policies:
- Strategic Policies: These set out the framework for joint working, managing development and supporting service provision, provide a borough-wide approach for guiding development to designated parts of the Borough, along with mechanisms for delivering infrastructure and protecting and enhancing the built and natural environment.
  - Allocation Policies: These identify specific locations where development and change will occur. Criteria developed for each allocation set out the types of development which may occur, along with any mitigation and infrastructure provision necessary to support the development.

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<sup>11</sup> Statutory Instrument 2017

<sup>12</sup> Basildon Borough Council, Local Development Scheme 2017-2019 - 9<sup>th</sup> Edition



- Development Management Policies: These are intended to be applied throughout the development management process, setting out how the development will be managed to ensure it contributes towards the vision and objectives.

- 2.8 Supplementary Planning Documents and Neighbourhood Plans may also be prepared to further support the policies within the Local Plan.
- 2.9 The Publication Local Plan identifies the need for roughly 19,500 homes to be delivered within the Borough over the plan period from 2014 to 2034. Land provision for at least 17,791 homes has been identified within the Local Plan. However, it is expected that only around 15,465 could be delivered within the plan period. Consequently, in addition to this, Policy SD2 identifies two broad locations for potential housing growth in the next review of the Local Plan: one in the area to the south of Crays Hill, Billericay and another in the area to the south of Wickford. Furthermore, Policy SD3 allocates minimum housing targets for two neighbourhood plan areas within the Borough: 1,350 within the Bowers Gifford and North Benfleet Neighbourhood Plan Area and 39 homes within the Ramsden Bellhouse Neighbourhood Plan Area. The Publication Local Plan provides for a net increase of 20,000 jobs over the plan period, which equates to a minimum of 42ha of additional employment land (37ha for the Borough's needs and 5ha to accommodate unmet need from London). The Publication Local Plan allocates a series of sites for development to meet the identified housing and economic needs, focused primarily on Basildon, but also with some sites allocated at Billericay and Wickford.
- 2.10 Subject to approval by the Council, the Publication Local Plan and this HRA Report will be made available for public consultation from late 2018.

## Potential impacts of the Local Plan on European sites

- 2.11 **Table 2.1** below sets out the range of potential impacts that development in general and related activities may have on European sites.

**Table 2.1 Potential impacts and activities adversely affecting Natura 2000 sites**

Broad categories and examples of potential impacts on Natura 2000 sites	Examples of activities responsible for impacts
Physical loss Removal (including offsite effects, e.g. foraging habitat) Mine collapse Smothering Habitat degradation	Development (e.g. housing, employment, infrastructure, tourism) Infilling (e.g. of mines, water bodies) Alterations or works to disused quarries Structural alterations to buildings (bat roosts) Afforestation Tipping Cessation of or inappropriate management for nature conservation
Physical damage Sedimentation / silting Prevention of natural processes Habitat degradation Erosion Trampling Fragmentation Severance / barrier effect Edge effects Fire	Flood defences Dredging Mineral extraction Recreation (e.g. motor cycling, cycling, walking, horse riding, water sports, caving) Development (e.g. infrastructure, tourism, adjacent housing etc.) Vandalism Arson Cessation of or inappropriate management for nature conservation

Broad categories and examples of potential impacts on Natura 2000 sites	Examples of activities responsible for impacts
Non-physical disturbance Noise Vibration Visual presence Human presence Light pollution	Development (e.g. housing, industrial) Recreation (e.g. dog walking, water sports) Industrial activity Mineral extraction Navigation Vehicular traffic Artificial lighting (e.g. street lighting)
Water table/availability Drying Flooding / stormwater Water level and stability Water flow (e.g. reduction in velocity of surface water) Barrier effect (on migratory species)	Water abstraction Drainage interception (e.g. reservoir, dam, infrastructure and other development) Increased discharge (e.g. drainage, runoff)
Toxic contamination Water pollution Soil contamination Air pollution	Agrochemical application and runoff Navigation Oil / chemical spills Tipping Landfill Vehicular traffic Industrial waste / emissions
Non-toxic contamination Nutrient enrichment (e.g. of soils and water) Algal blooms Changes in salinity Changes in thermal regime Changes in turbidity Air pollution (dust)	Agricultural runoff Sewage discharge Water abstraction Industrial activity Flood defences Navigation Construction
Biological disturbance Direct mortality Out-competition by non-native species Selective extraction of species Introduction of disease Rapid population fluctuations Natural succession	Development (e.g. housing areas with domestic and public gardens) Predation by domestic pets Introduction of non-native species (e.g. from gardens) Fishing Hunting Agriculture Changes in management practices (e.g. grazing regimes, access controls, cutting/clearing)

## 3 HRA Methodology

- 3.1 HRA Screening of the Basildon Borough Local Plan has been undertaken in line with current guidance and seeks to meet the requirements of the Habitats Regulations. The tasks that have been undertaken during the Screening stage of the HRA are described in detail below.

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

- 3.2 During the HRA of the now-withdrawn Core Strategy, an initial investigation was undertaken to identify the European sites within or adjacent to the Basildon Borough boundary which may be affected by development. This involved the use of GIS data to map the locations and boundaries of European sites using publicly available data from Natural England.
- 3.3 All European sites lying partially or wholly within 15 km from the Borough boundary were included in the HRA of the Core Strategy to reflect the fact that development resulting from a plan may affect European sites which are located outside the administrative boundary of the plan area. This distance has generally been considered reasonable by Natural England in other Local Plan HRAs to ensure that all designated sites that could potentially be affected by development are identified and included in the assessment. A number of additional European sites beyond the 15 km buffer for which a pathway for potential effects exists were also identified. The same approach has been adopted in identifying the European sites that may be affected by the Local Plan.
- 3.4 European sites within 15 km of the Basildon Borough boundary are 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.
- 3.5 Three additional European sites beyond the 15 km buffer were also considered in relation to the potential for water abstraction to serve the development proposed by the Local Plan to adversely affect water availability and flow regimes. This was on the basis that 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:
- 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.
- 3.6 All of the European sites above are shown in **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 the scoped-in European sites listed above, their designated features and factors affecting their integrity are provided in **Appendix 1**.

## Assessment of 'likely significant effects' of the Local Plan

- 3.7 As required under Regulation 105 of the Conservation of Habitats and Species Regulations 2017 an assessment has been undertaken of the 'likely significant effects' of the Local Plan. The HRA Screening assessment began by considering the potential for the development proposed by each Local Plan policy to have a likely significant effect, either alone or in-combination with the other plans and projects that are reviewed in **Appendix 2**. The findings of the initial Screening are summarised in **Chapter 4** and the Screening matrix can be found in **Appendix 3**.
- 3.8 A 'traffic light' system has been used to record the potential for policies and site allocations to have likely significant effects on European sites using the colour categories shown below.

Significant effects likely
Significant effects uncertain
Significant effects not likely

- 3.9 This initial Screening does not represent the findings of the HRA Screening assessment as it only considers the potential for the development proposed by the policy in question to have likely significant effects. The conclusions of the HRA Screening are described in **Chapter 4**.
- 3.10 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 very unlikely, based on current knowledge and the information available, that a proposal in the Local Plan would have a significant effect on the integrity of a European site.

## Screening assumptions and information used in reaching conclusions about likely significant effects

- 3.11 The Screening stage of the HRA took the approach of screening each Local Plan policy individually, which is consistent with current guidance.
- 3.12 There are no European sites within the Plan area, the closest being Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site which is 1.4 km from the Borough boundary at its closest point; Basildon town which is the Plan's main focus for development is approximately 4.8 km from the nearest European site. Based on this, an initial examination of the designated features of the scoped-in European sites, and the general nature of the Plan proposals, it was considered that no potential existed for most types of likely significant effect on European sites from the Local Plan proposals, including air pollution, direct physical loss or damage, disturbance, and non-toxic contamination. The following types of potential effects were judged as having the potential to result in likely significant effects on the European sites beyond the Borough boundary:
- Increased recreation pressure.
  - Reduced water quality.
  - Reduced water resources.
  - Increased flood risk.
  - Loss of offsite functionally linked land.
- 3.13 The approach taken in the HRA for screening policies for their potential to have each of these types of effect is outlined below. For some types of potential likely significant effect, the Screening assessment was carried out on a proximity basis, using GIS data to determine the distance between potential development locations and the European sites that are the subject of the assessment. In the absence of accepted standards or locally specific evidence in relation to the distances over significant effects are likely, the assumptions described below were applied.

### Increased recreational pressures

- 3.14 The review of the characteristics of European sites within the scope of the HRA indicated that whilst recreational issues are only identified as a current pressure or threat at some sites, all of them have designated bird interest and associated habitats with the potential to be adversely affected by increased recreational pressure.
- 3.15 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 and have been included as part of the consideration of recreational pressures.
- 3.16 The extent to which increases in population can contribute to recreational pressures at European sites is complex, and recent approaches advocated by local authorities and Natural England elsewhere in the UK, including much of the Essex coastline, have recognised that there is no 'one size fits all' list of assumptions that can be applied. Studies have shown that different European sites have varying 'zones of influence', within which increases in population may result in likely significant effects. The zones of influence are typically established using questionnaire surveys at each of the sites, which seek to determine the origin and distances travelled by the majority of visitors. The zones of influence used in this HRA assessment, which have been based on existing evidence and advice provided by Natural England, are provided in **Table 3.1** below.

**Table 3.1 Zones of Influence for recreational impacts**

European Site	Zone of Influence (ZoI) applied in this assessment (km)	Site allocations of Local Plan located within ZoI
Essex Estuaries SAC	24	<b>YES</b>
Hamford Water SPA and Ramsar	8	No
Stour and Orwell Estuaries SPA and Ramsar	13	No
Colne Estuary SPA and Ramsar	24	No
Blackwater Estuary SPA and Ramsar	8	No
Dengie SPA and Ramsar	13	No
Crouch and Roach Estuaries SPA and Ramsar	10	<b>YES</b>
Foulness Estuary SPA and Ramsar	13	No
Benfleet and Southend Marshes SPA and Ramsar	10	<b>YES</b>
Thames Estuary and Marshes SPA and Ramsar	10	<b>YES</b>

- 3.17 On the basis of the above zones of influence, sites requiring consideration in relation to recreational pressures comprise:
- Essex Estuaries SAC.
  - Crouch and Roach Estuaries SPA and Ramsar.
  - Benfleet and Southend Marshes SPA and Ramsar.
  - Thames Estuary Marshes SPA and Ramsar.

### Reduced water quality

- 3.18 The review of the characteristics of European sites within the scope of the HRA (**Appendix 1**) indicated that whilst water quality issues are only identified as a current pressure or threat 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.

- 3.19 Development within Basildon Borough may adversely affect the water quality of the European sites beyond its boundary via increased volumes of treated wastewater discharged from the Water Recycling Centres or WRCs (formerly known as Wastewater Treatment Works or WwTWs) serving communities in the Borough or via combined sewer overflows during high rainfall events. These 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 WRC outfall.
- 3.20 Other sources of water pollution which may be associated with development, such as contaminated surface run-off, were assumed incapable of significant effects on European sites beyond the Borough boundary.
- 3.21 The HRA assumed that the potential for likely significant effects due to reduced water quality, either alone or in-combination, only exists for European sites which are within 15 km of the Borough boundary (as identified earlier in this chapter) and which are hydrologically connected to it. Water pollution from more distant development was assumed to be sufficiently diluted and dispersed as to be negligible. The hydrological connectivity of the WRCs serving Basildon Borough is set out in **Table 3.2**, based on information contained within the HRA of the Core Strategy Preferred Options and the 2011 Water Cycle Study<sup>13</sup>. It was assumed that combined sewer overflows are hydrologically connected to the same European sites.

**Table 3.2 WRCs serving Basildon Borough and their hydrological connectivity to European sites**

WRC serving Basildon Borough (location)	Hydrological connectivity to European sites within 15 km of Basildon Borough boundary
Basildon WRC (Cortauld Road, north of Basildon)	Despite being close to the Basildon Brook, a tributary of the River Crouch, this WRC's effluent is pumped southwards in a pipe to discharge to Timberman's Creek in Pitsea (grid reference TQ737874) which is connected to the River Thames approximately 5 km upstream of <b>Benfleet and Southend Marshes SPA and Ramsar site</b> and opposite the <b>Thames Estuary and Marshes SPA and Ramsar site</b> .
Wickford WRC (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 <b>Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site</b> and Essex Estuaries SAC.
Pitsea WRC (near Pitsea Station south of Basildon)	Discharges to Timberman's Creek (grid reference TQ736868) which is connected to the River Thames approximately 5 km upstream of <b>Benfleet and Southend Marshes SPA and Ramsar site</b> and opposite the <b>Thames Estuary and Marshes SPA and Ramsar site</b> .
Billericay WRC (East of Billericay)	Discharges to River Crouch (grid reference TQ69899420) and is therefore hydrologically connected to <b>Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site</b> and <b>Essex Estuaries SAC</b> .
<i>Shenfield and Hutton WRC (north east of Hutton; currently serves Brentwood Borough but connection to Brentwood Borough has been considered in the past)</i>	<i>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 (included for information only as WRC does not currently serve Basildon).</i>

- 3.22 The Council has been engaged in ongoing discussions with Anglian Water Services (AWS), which is responsible for the WRCs and sewerage network within the Borough, to understand the capacity of this wastewater infrastructure to accommodate different scales and distributions of residential development. It is notable, however, that the wastewater infrastructure implications of each proposed site have been assessed by AWS on an individual site basis. AWS explains that the cumulative effect of all of the identified allocated sites may require enhancement to capacity and should all the available capacity be taken up at the WRC then upgrade to the works may be required that may involve seeking consent from the Environment Agency for an increase in

<sup>13</sup> South Essex Outline Water Cycle Study, URS for Basildon, Castle Point and Rochford Councils, September 2011.

discharge of final effluent. The HRA of site allocations made reference to this information, where relevant but as it did not assess the cumulative effect on WRC capacity of all preferred options together, it was of limited use in ruling out the potential for reduced water quality effects from residential development proposals in the Local Plan.

3.23 On the basis of the above consideration of hydrological connectivity, sites requiring consideration in relation to water quality comprise:

- Essex Estuaries SAC.
- Crouch and Roach Estuaries SPA and Ramsar.
- Benfleet and Southend Marshes SPA and Ramsar.
- Thames Estuary Marshes SPA and Ramsar.

### Reduced water resources

3.24 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 current pressure or threat at some sites, the designated features of all of them have the potential to be adversely affected by significant changes to the hydrological regime.

3.25 Initial consideration was also given to the potential for development proposed by the Local Plan within Basildon Borough to affect water levels and flow regimes at the European sites beyond its boundary via increased abstraction to serve its potable water needs. Previous HRA work for the Core Strategy Preferred Options ruled out the possibility of adverse effects on European sites due to reduced water resources largely on the basis that the expansion of Abberton Reservoir would more than meet water demand for the foreseeable future. The current Water Resources Management Plan (WRMP) covering Basildon Borough<sup>14</sup> forecasts water demand for the period 1 April 2015 to 31 March 2040 and documents how the water company plans to meet this demand. The WRMP shows that Basildon Borough lies within the Essex Water Resource Zone (WRZ) and confirms that the enlargement of Abberton Reservoir is now complete and that the Essex WRZ is forecast to have a significant supply surplus in every year until 2040.

3.26 On this basis, **the potential for the development proposed by Basildon Borough Publication Local Plan to have likely significant effects on European sites hydrologically connected to the Essex WRZ due to reduced water resources was ruled out** and individual policies were not screened for this potential effect.

### Increased flood risk

3.27 The review of the characteristics of European sites within the scope of the HRA (**Appendix 1**) indicates that their designated features have the potential to be adversely affected by significant changes to the hydrological regime and/or flood damage to habitats on which designated features depend.

3.28 New development in areas that perform a flood storage function for rivers is likely to reduce flood storage capacity and thereby increase flood risk downstream. Where there is a European site downstream of the development site, increased flood risk could result in loss of or damage to terrestrial habitats or changed water levels and flows in aquatic habitats, adversely affecting sensitive designated features. The HRA used areas in Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) as a proxy for flood storage areas and built development within Flood Zone 3 was assumed to have the potential for significant effects, alone or in-combination, due to increased flood risk at downstream European sites. It was assumed that the likelihood of development in lower risk Flood Zones (less than a 1 in 100 chance of river flooding each year) increasing flood risk at downstream European sites was sufficiently low that these would not constitute 'likely significant effects'. It was further assumed that any increase to flood risk from development within any Flood Zone would be negligible at European sites located more than 15 km from the Borough boundary.

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<sup>14</sup> Final Water Resources Management Plan, Essex and Suffolk Water, October 2014

- 3.29 New development could also increase downstream flood risk by creating impermeable surfaces that increase the rate at which surface water drains into nearby watercourses during heavy rainfall. The HRA assumed that all development allocations on greenfield sites give rise to a potential likely significant effect on downstream European sites within 15 km of the Borough boundary, in-combination with the other greenfield development proposed by the Local Plan.
- 3.30 On the basis of the above consideration of hydrological connectivity, sites requiring consideration in relation to increased flood risk comprise:
- Essex Estuaries SAC.
  - Crouch and Roach Estuaries SPA and Ramsar.
  - Benfleet and Southend Marshes SPA and Ramsar.
  - Thames Estuary Marshes SPA and Ramsar.

### Loss of Offsite Habitat

- 3.31 Any development resulting from the Local Plan would take place within Basildon Borough; therefore no direct habitat loss to European sites will occur. Loss of habitat within Basildon Borough may have the potential to result in likely significant effects to European sites where the habitat affected contributes towards maintaining the interest feature for which the European site is designated.
- 3.32 Given the distances between site allocations within the Borough and the European sites, this type of effect is limited to potential effects on populations of SPA and Ramsar birds which may rely upon offsite habitat for foraging and loafing, especially large fields comprising arable and pastoral land uses. Natural England has advised that their recognised foraging distance threshold for the majority of wetland bird species is 2km from the designated site. However, the foraging distance for golden plover and lapwing is recognised as being up to 15km. In light of this, the following European site has been screened in:
- Thames Estuary and Marshes SPA - located c.5km from Basildon and requires consideration in respect of lapwing only.
- 3.33 The remaining European sites were ruled out from impacts associated with damage/loss of habitat, either because their qualifying features are not susceptible to offsite habitat loss (e.g. Essex Estuaries SAC) or the species for which they are designated would not be expected to rely upon land allocations within the Borough of Basildon.

### Mitigation provided by the Local Plan

- 3.34 Some of the potential likely significant effects of the Local Plan Section 2 could be mitigated through the implementation of other proposals in the Local Plan itself, such as those relating to the provision of recreational open space within new developments (which would help avoid, reduce, and mitigate increased pressure from recreational activities at European sites).
- 3.35 However, a recent CJEU ruling (People over Wind, Peter Sweetman v Coillte Teoranta (Case C-323/17) judgement) ruled that Article 6(3) of the Habitats Directive should be interpreted as meaning that mitigation measures, specifically measures which avoid or reduce adverse effects, should be assessed as part of an Appropriate Assessment, and should not be taken into account at the Screening stage. The precise wording of the ruling is as follows:
- "Article 6(3) .....must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site."*
- 3.36 Prior to this judgment, UK case law had established that avoidance or reduction measures that form part of a proposal could be taken into account at the Screening stage, on the basis of objective information. This HRA has taken account of this recent ruling and therefore not relied on avoidance or mitigation measures at the Screening stage. Where such measures are proposed



to avoid the harmful effects of the plan, they have been considered at the Appropriate Assessment stage to ensure compliance with recent case law.

- 3.37 The extent to which mitigation may be achieved through the Publication Local Plan Section 2 was considered during the Appropriate Assessment process and has influenced the Appropriate Assessment conclusions (see **Chapter 7**).
- 3.38 Policies which may serve a mitigatory role for each of the potential impacts identified are described below.

### Recreational Pressures

- 3.39 The Green Infrastructure Strategy set out in Policy NE1 seeks, through partnership working, to extend and enhance the network of Green Infrastructure in the Borough, including by providing links for people to the South Essex Green Grid and Nature Improvement Area. Policy NE3 protects existing Country Parks and seeks opportunities to enhance them.
- 3.40 Strategic development Policy SD1, the strategic housing Policy H1 and the implementation strategy in Policy IMP1 state that growth will be phased to align with provision of the infrastructure needed to support it. Many of the individual strategic housing and mixed use allocation Policies H5-H22 restate this and require landscape buffers to be multi-functional, these functions include open space.
- 3.41 New open space could serve a mitigatory role by providing accessible natural greenspace which offers an alternative to visiting European sites for recreational purposes. Such policies include:
- Policy H5: 6-8 ha of open space.
  - Policy H8: on-site provision in line with Policy HC2 and providing for any loss of open space arising from development at the site allocated in Policy H5.
  - Policy H11: 75 ha of open space.
  - Policy H12: a new strategic open space to the east of Shotgate.
  - Policy H13: new strategic open space for north Wickford, adding new connections to Public Rights of Way.
  - Policy H17: on-site provision in line with Policy HC2 and providing for any loss of open space arising from development and additional spaces associated with the developments landscaping.
  - Policy H19: A central area of open land should deliver a 19 ha multi-functional extension to Mill Meadows Nature Reserve.
- 3.42 The Leisure and Recreation Strategy set out in Policy HC2 specifies that new provision of open space and sports and recreational facilities will have regard to the Borough's local open space standards and states that, where appropriate, the provision, enhancement and maintenance of open space, sports and recreational facilities will be secured through planning conditions and/or developer contributions. Policy HC10 requires that new residential or mixed use proposals must assess the capacity of existing facilities and that this be used to determine the additional provision required, which will be secured by a reasonable contribution towards their provision.
- A more generic requirement to avoid harm to biodiversity is stated in housing allocation Policies H5-H22 and Policy NE4 states that proposals resulting in adverse impacts within European sites will not normally be permitted.

### Water Quality

- 3.43 Strategic development Policy SD1, the strategic housing Policy H1 and the implementation strategy in Policy IMP1 state that growth will be phased to align with provision of the infrastructure needed to support it. Individual strategic housing and mixed use allocation policies restate this and, where relevant to the location, draw attention to the particular need to phase development to align with any required improvements to the drainage network or at the nearby WRC. They also require landscape buffers to be multi-functional, these functions to include surface water management such as Sustainable Drainage Systems (SuDS).

- 3.44 A more generic requirement to avoid harm to biodiversity is stated in housing allocation Policies and Policy NE4 states that proposals resulting in impacts in European sites will not normally be permitted.
- 3.45 The Environment Agency regulates discharges to water via its environmental permitting regime. Any extension to existing discharge consents held by WRCs would be subject to this regime and, where relevant, the Environment Agency would also subject the proposal to HRA.

#### **Flood Risk**

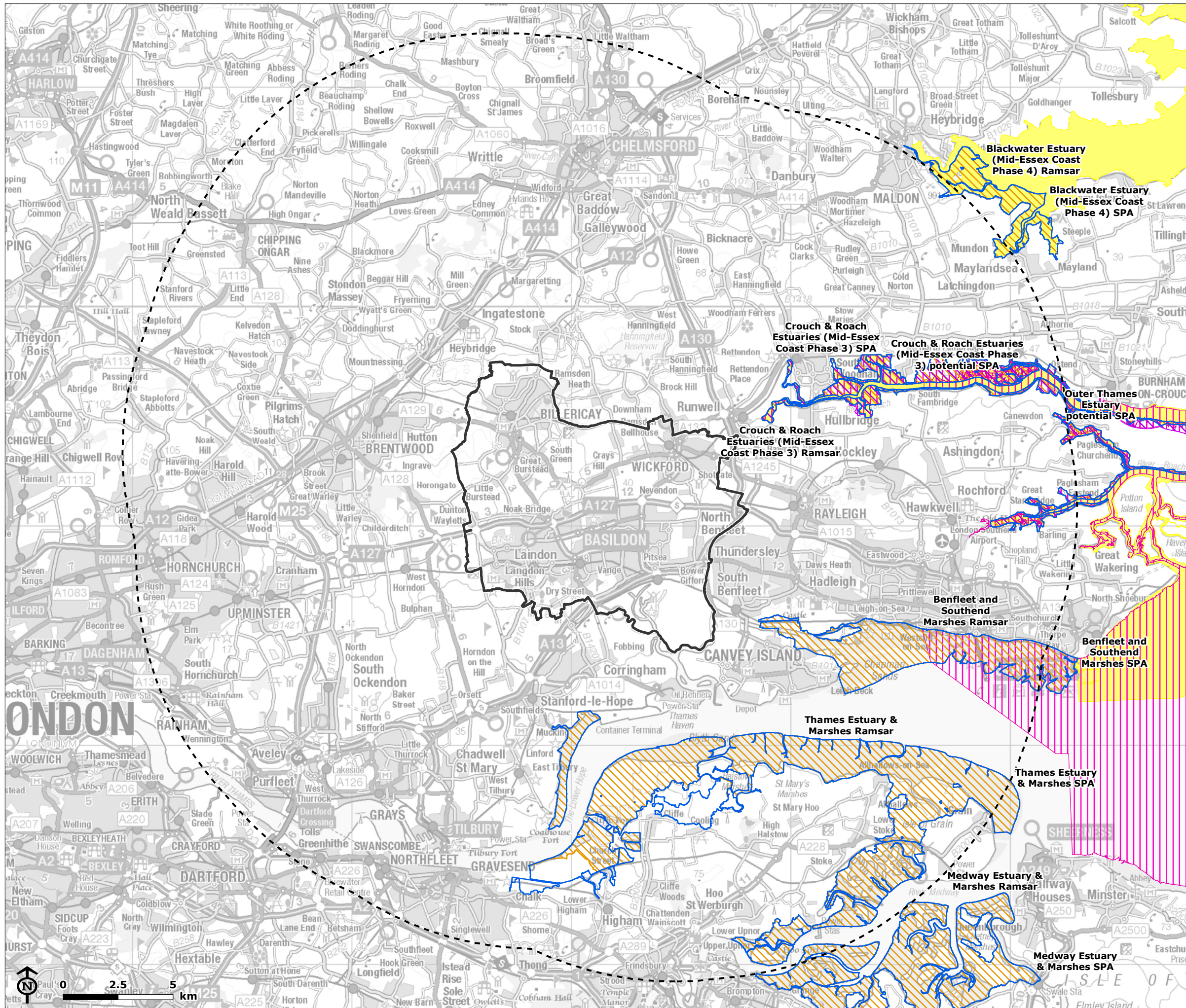
- 3.46 Policies CC2 and CC4 state that the Council will ensure that new development does not increase the risk of flooding elsewhere. All development proposals must incorporate sustainable drainage systems (SuDS) which attenuate surface water on-site and slow run off to natural levels and which have the capacity to cope with extreme rainfall events. Where surface water cannot be attenuated fully on-site, contribution to off-site surface water management may be acceptable if it offsets the residual development impacts.
- 3.47 A more generic requirement to avoid harm to biodiversity is stated in housing allocation policies and Policy NE4 states that proposals resulting in adverse impacts within European sites will not normally be permitted.

#### **Loss of Offsite Habitat**

- 3.48 The Local Plan provides no specific 'built in' avoidance and mitigation measures in relation to the potential loss of offsite functionally linked land. Potential mitigation and avoidance requirements are discussed in detail at the Appropriate Assessment stage.

### **Appropriate Assessment**

The Appropriate Assessment stage of HRA focuses on those policies and related impacts judged likely to have a significant effect at the Screening stage, and seeks to conclude whether, in light of the mitigation and avoidance measures proposed, and/or other mitigation safeguards which could be provided or committed to, they would result in an adverse effect on the on the integrity of the qualifying features of a European site(s) either alone or in-combination, or where insufficient certainty regarding this remains. The integrity of a site depends on the site being able to sustain its 'qualifying features' across the whole of the site and ensure their continued viability.



**Figure 3.1: European Sites within 15km of Basildon Borough**

- Basildon Borough boundary
- 15km buffer from Basildon Borough
- Ramsar
- Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) Proposed Ramsar
- Essex Estuaries Special Area of Conservation
- Special Protection Area
- Potential Special Protection Area

Map Scale @ A3: 1:170,000

## 4 HRA Screening Assessment

- 4.1 This chapter presents the criteria against which individual Publication Local Plan policies and allocations were screened, summarises the potential likely significant effects identified, considers the potential for these effects to act in-combination with those of other plans and projects, and concludes as to whether likely significant effects can be ruled out.

### Screening of Local Plan policies for likely significant effects

- 4.2 An initial assessment was carried out to identify whether each of the Publication Local Plan policies has the potential to have likely significant effects on any European site. Each policy or group of related policies was assigned one or more of the policy screening criteria set out in **Table 4.1**. Details of the reason(s) for the screening opinions reached for each policy are set out in **Appendix 3**. 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 4.1 Policy screening criteria**

Effects on European site
<b>Elements of the Local Plan that will have no effect on a European site</b>
1. 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).
2. The policy or proposal is intended to protect the natural environment, including biodiversity.
3. 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.
4. 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 Local Plan that will be subject to HRA or project assessment 'down the line' to protect European sites</b>
5. 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 European site and associated sensitive areas.
6. 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).
<b>Elements of the Local Plan that could or would have a potential effect on European sites</b>
7. 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.
8. 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.
9. The policy or proposal could result in cumulative effects on European sites (especially indirect effects) of development proposals coordinated by the Local Plan, which alone would not be significant but in combination are likely to be.
10. 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.
11. Developments that could close off options or alternatives in the future, that may lead to adverse effects on European sites.

## Effects on European site

12. Proposals that have a high risk of failing the tests of the Habitats Regulations at project assessment stage.
13. 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.

## Potential likely significant effects identified

- 4.3 The initial Screening assessment identified the potential for likely significant effects from the development proposed by the Publication Local Plan policies and site allocations as follows.

### Significant effects likely

- 4.4 Significant effects were not considered likely in respect of any of the policies or site allocations within the Publication Local Plan, primarily because of the distance between European sites and the areas that are the focus for development in the Local Plan.

### Significant effects not likely

- 4.5 Significant effects are not considered likely in relation to the Local Plan policies or allocations shaded in green in **Appendix 2** for combinations of screening reasons 1, 2, 3, 4 and 5 in **Table 4.1**. In many cases, the potential for likely significant effects was able to be ruled out because the policy was concerned with managing development proposed by other policies rather proposing development itself.

### Significant effects uncertain

- 4.6 Uncertainty regarding significant effects existed for the Local Plan policies or allocations highlighted in orange in **Appendix 3**. The types of potential likely significant effect identified were:
- Increased recreation pressure.
  - Reduced water quality from increased discharges of treated wastewater or combined sewer overflows.
  - Increased downstream flood risk.
  - Loss of offsite functionally linked land.
- 4.7 These potential likely significant effects were identified for both strategic policies, such as those defining the total amount and broad locations for development, and for those with more spatially specific development proposals, including strategic site allocations.
- 4.8 Further consideration was therefore given to these potential significant effects in the following section.

## Recreational Pressures

- 4.9 In line with the Screening assumptions set out in Chapter 3, the potential for recreational pressures to result in likely significant effects is restricted to those policies likely to result increases in human population within the zone of influence of a European site. European sites screened into this assessment comprise:
- Essex Estuaries SAC.
  - Crouch and Roach Estuaries SPA and Ramsar.
  - Benfleet and Southend Marshes SPA and Ramsar.
  - Thames Estuary Marshes SPA and Ramsar.

- 4.10 Policies identified as potentially contributing to significant increases in recreational pressures to the above sites include the following:
- SD1 and SD3 Strategic approach to sustainable development and neighbourhood planning.
  - H1 and H3-H22 (Housing).
  - R2 Basildon town centre regeneration.
  - R3 Laindon town centre regeneration.
  - R5 Wickford town centre regeneration.

#### **In-combination effects**

- 4.11 The possibility of recreation pressure on the European sites scoped into the Basildon Local Plan HRA was identified within the HRAs of a number of the other plans and projects reviewed in **Appendix 2**, as a result of residential development in those other districts (for example the Local Plans for Castle Point Borough, Chelmsford City, Maldon District and Rochford District). Given the considerable areas of the zones of influence affecting many of these sites, in-combination effects represent a potentially significant threat.

#### **HRA Screening conclusion**

- 4.12 The potential for the Basildon Local Plan to result in likely significant effects on the above European sites as a result of increases in recreation cannot be ruled out at this stage, either alone or in-combination with other plans. As a result, **this type of impact will require consideration at the Appropriate Assessment stage to determine whether the Basildon Borough Publication Local Plan would adversely affect the integrity of the European sites, either alone or in-combination in light of any specific approaches to mitigation and avoidance.**

## **Reduced Water Quality**

- 4.13 Whilst development site-level information from AWS suggests that WRC capacity is available to accommodate many of the proposed housing allocations individually, infrastructure and/or treatment upgrades may be required to accommodate their cumulative effect, as well as development sites with planning permission but with houses yet to be constructed. Capacity in the foul sewerage network was identified as a concern for most site allocations individually, even before consideration of cumulative effects.
- 4.14 Whilst the Publication Local Plan includes policy commitments and safeguards designed to ensure impacts associated with water quality are avoided, such measures cannot be relied upon in forming conclusions at the Screening stage.

#### **In-combination effects**

- 4.15 The possibility of reduced water quality effects on the European sites scoped into the Basildon Local Plan HRA was identified within the HRAs of a number of the other plans and projects reviewed in Appendix 2, as a result of pressure on wastewater infrastructure capacity in those other districts (for example the Local Plans for Chelmsford City, Gravesham District, Maldon District, and Rochford District). However, those HRAs were able to rule out residual adverse effects, either at the Screening or Appropriate Assessment stage of HRA, by reliance on mitigation such as Local Plan policies to ensure provision of new infrastructure and operation of the discharge consenting regime operated by the Environment Agency.

#### **HRA Screening conclusion**

- 4.16 Should it not prove feasible to deliver wastewater infrastructure improvements required to avoid deterioration in downstream water quality alongside the development proposed by the Publication Local Plan, the policy safeguards and mitigation specified in the Local Plan would be required to ensure that development does not proceed and associated impacts upon European sites avoided. Nevertheless, a reliance on this safeguard mechanism is required to provide certainty that

harmful effects would be avoided. Given that avoidance and mitigation measures should not be relied upon or at the Screening stage, **the potential for water quality to effect European sites will require further consideration, in light of avoidance and mitigation, at the Appropriate Assessment stage to determine whether it would result in adverse effects on European sites either alone or in-combination.**

## Increased Flood Risk

- 4.17 Development on greenfield locations could create impermeable surfaces and thereby increase surface drainage rates. Taken together, these have the potential to increase flood risk at downstream European sites.
- 4.18 For the small number of allocations that contain an area in Flood Zone 3 (Policies SD3, E6, R5, H10, H12), the proportion of the site within Flood Zone 3 is so small that it should be possible to avoid development in that part of the site. Even if this were not the case, the loss of flood storage and consequent potential for increased flood risk downstream would be negligible. However, whilst the Publication Local Plan includes policy commitments and safeguards designed to ensure impacts associated with water quality are avoided, such measures cannot be relied upon in forming conclusions at the Screening stage.

### In-combination effects

- 4.19 The possibility of increased flood risk effects on the European sites scoped into the Basildon Local Plan HRA was not identified within the HRAs of the other plans and projects reviewed in **Appendix 2**. In any event, those HRAs were able to rule out all residual adverse effects, either at the Screening or Appropriate Assessment stage of HRA by reliance on mitigation.

### HRA Screening conclusion

- 4.20 The mitigation described above should ensure that development does not increase surface run off rates from impermeable, built surfaces, including during extreme rainfall events. It is therefore concluded that **likely significant effects can be ruled out** in relation to the potential for the Publication Local Plan proposals to result in increased flood risk at downstream European sites.
- 4.21 The policy safeguards and mitigation specified in the Publication Local Plan would ensure that development does not result in notable increases in flood risk to downstream European sites. Nevertheless, a reliance on this safeguard mechanism is required to provide certainty that harmful effects would be avoided. Given that avoidance and mitigation measures should not be relied upon or at the Screening stage, **the potential for flood risk to affect European sites will require further consideration, in light of avoidance and mitigation, at the Appropriate Assessment stage to determine whether it would result in adverse effects on European sites either alone or in-combination.**

## Loss of Offsite Habitat

- 4.22 As described above, the potential for loss of offsite functionally linked land to result in significant effects is limited to the Thames Estuary and Marshes Estuary SPA only. This SPA is located 4km to the south of Basildon. The majority of this SPA is separated from the Borough by the Thames Estuary, with a single component area located on the north shore at East Tilbury, approximately 5km to the southwest of the Borough.
- 4.23 The site supports lapwing as part of its bird assemblage and this species regularly utilises offsite pastures and arable fields for foraging. As a result, there is potential for site allocations to result in the loss of offsite habitats of importance to lapwing.
- 4.24 Development would not be expected to result in fragmentation or severance of habitats given the proposed allocations are within or adjacent to existing settlements and located several kilometres from the SPA. However, the loss of arable and pasture may reduce the extent of foraging and loafing habitats upon which lapwing depend.

- 4.25 Preferred examples of offsite foraging habitat for SPA lapwing populations would typically include larger fields located close to the estuary, and prone to flooding or wet soil, where levels of existing disturbance are low, and which support a degree of openness and landscape habitat connectivity to the estuary.
- 4.26 Key housing and employment allocations within the Basildon Publication Local Plan are all located over 5km from the SPA and therefore, alone, would not be expected to be important in maintaining populations of lapwing. However, at this stage there is insufficient evidence to conclude whether the combined effect of habitat loss associated with larger site allocations will result in likely significant effects on the SPA lapwing populations.

### In-combination

- 4.27 The loss of offsite functionally linked habitat was not identified as a potential likely significant effect by the other plans and projects reviewed in **Appendix 2**. In any event, those HRAs were able to rule out all residual adverse effects, either at the Screening or Appropriate Assessment stage of HRA by reliance on mitigation. Therefore, the potential for such in-combination effects with other plans and projects is unlikely. But the combined losses of individual site allocations specified within the Local Plan could have a cumulative effect as a result of loss of offsite habitat, and will require further consideration at the Appropriate Assessment stage.

### HRA Screening Conclusion

- 4.28 Therefore, **further assessment of strategic employment and housing site allocations is required at the Appropriate Assessment stage, to determine whether loss of habitat would, either alone or in-combination, result in adverse effects on the integrity of the Thames Marshes and Estuary SPA**. The assessment should seek to determine the suitability of the habitats within allocations for lapwing based on a number of parameters, for example size, proximity to the SPA, habitat type, and the presence or absence of negative factors, such as edge effects and existing levels of disturbance.

## Summary of Screening Conclusions

- 4.29 Likely significant effects as a result of changes in water quality and quantity (increased flood risk), recreational pressures, and loss of offsite habitat could not be ruled out. In previous iterations of this HRA report, the potential for likely significant effects as a result of water quality and quantity were ruled out in light of the safeguards provided within the Local Plan, and on the basis that the recommendations are implemented successfully, including the phasing of development in parallel with any necessary infrastructure upgrades. However, following the recent 'People over Wind' CJEU ruling, the effect of avoidance and mitigation measures can no longer be relied upon at the Screening stage for these effects, and therefore will require further consideration at the Appropriate Assessment stage to determine adverse effects on integrity either alone or in-combination.
- 4.30 Recreational pressures are complex and given the extensive zones of influence affecting each of the sites, a strategic approach to avoiding such impacts is required. The Screening assessment was not able to rule out the potential for Basildon Publication Local Plan to result in likely significant effects on the Essex Estuaries SAC, Crouch and Roach Estuaries SPA and Ramsar, Benfleet and Southend Marshes SPA and Ramsar, and Thames Estuary and Marshes SPA and Ramsar as a result of increases in recreation, particularly as a result of in-combination effects with population increases associated with other Local Plans. Basildon Council is taking a proactive and strategic approach to addressing this issue through close working with Natural England and other local authorities in Essex. This is considered in more detail at the Appropriate Assessment stage.
- 4.31 The loss of offsite habitat as a result of development within the site allocations has the potential to result in the loss of functionally linked land upon which qualifying bird species depend. The potential for likely significant effects as a result of loss of offsite functionally linked land is restricted to the effect on lapwing populations of the Thames Estuary and Marshes SPA only. Other species for which the Thames Estuary and Marshes SPA is designated would not be



expected to rely upon the habitats affected due to the distance of several kilometres between the allocated sites and the SPA. Loss of offsite habitat will not result in likely significant effects on other European sites because they are located over two kilometres from site allocations and do not support qualifying species which would be expected to rely upon inland habitats beyond this range.

- 4.32 In summary, further assessment is required at the Appropriate Assessment stage to determine whether the Basildon Local Plan will adversely affect the integrity of the European sites as a result of increases in recreational pressure, changes in water quality and quantity, increased flood risk, and loss of offsite habitat, either alone or in-combination with other plans and projects.

## 5 Appropriate Assessment

### Recreational Pressures

- 5.1 The Screening Assessment concluded that population growth associated with the Basildon Publication Local Plan has the potential to result in likely significant effects on the Essex Estuaries SAC, Benfleet and Southend Marshes SPA and Ramsar, Crouch and Roach Estuaries SPA and Ramsar, and Thames Estuary and Marshes SPA and Ramsar sites. As a result, avoidance and mitigation is proposed to provide a sufficient level of certainty that predicted effects associated with the Basildon Local Plan will not result in adverse effects in the integrity of European sites. The approach to avoidance and mitigation, and Appropriate Assessment conclusions in light of such measures is provided below.

#### **Recreation and Avoidance and Mitigation Strategy (RAMS)**

##### *Background*

- 5.2 The effects of recreational disturbance on coastal European sites, and/or those with sensitive bird populations have been studied and recognised throughout the UK. In light of an emerging body of research, the preferred approach to mitigation and avoidance of such impacts via the delivery of mitigation strategies has received a growing consensus of support by Natural England and other key stakeholders such as the RSPB and the Wildlife Trusts.
- 5.3 Relevant examples include: the Recreation Avoidance and Mitigation Strategy (RAMS) which is currently being prepared as a strategic document by the Suffolk Authorities of Ipswich, Suffolk Coastal and Babergh Authorities to mitigate recreational impacts of their Local Plans on the Stour and Orwell Estuaries SPA/Ramsar; the production of a joint Sustainable Access Strategy which is currently being finalised by Shepway and Rother Districts to mitigate recreational impacts of their Local Plans on the Dungeness SAC/SPA/Ramsar; and the Thames Basin Heaths Delivery Framework, which sets out the mitigation requirements to enable development within a zone of influence around the Thames Basin Heaths SPA.
- 5.4 A key component of the above examples is the adoption of a strategic approach to mitigation which involves more than one local authority. The sources of recreational impacts on European sites, typically originate from more than one local authority, as is the case in Basildon. As a result, it is typically the effect of multiple and widespread sources of recreational impact which may result in adverse effects on site integrity in-combination. In light of the above, the approach to mitigation detailed herein is considered a robust and appropriate means of ensuring impacts are successfully avoided and mitigated.
- 5.5 The multiple, widespread, and cross-boundary origins of recreational impacts reflect the unique attraction that these sites have for visitors. The experience that they offer cannot be replicated. As a result, whilst a multi-faceted approach is required, including the promotion of local education initiatives, and provision of alternative opportunities for recreational for those regular local visitors, the primary component of a successful RAMS will involve providing appropriate management at the European sites to avoid and minimise impacts and that such management continues to be informed by regular monitoring of people and birds.
- 5.6 The potential for recreational impacts has been recognised by Basildon Borough Council from the outset, and the approach actively being adopted in addressing such impact, together with an assessment of whether – in light of the advocated avoidance and mitigation measures – the Local Plan would result in adverse effects on integrity for each of the European sites, is provided below.

##### *Progress of the RAMS*

- 5.7 Through their plan-making processes, Councils across Essex have prepared HRA assessments. Consistently, these assessments have identified the potential for population growth arising from new housing to increase recreational disturbance from their inhabitants on European sites along

the Essex coastline. The HRA of Basildon Borough's Draft Local Plan 2016 was amongst those assessments which reached this conclusion. When the cumulative impact of all the individual Local Plans within Essex is considered, there is the potential for adverse effects on the integrity of the Essex Coast European sites.

- 5.8 The local authorities within Essex, where cumulative harm from additional recreational disturbance to Essex Coast European sites has the potential to arise are:
- Basildon Borough Council.
  - Braintree District Council.
  - Brentwood Borough Council.
  - Castle Point Borough Council.
  - Chelmsford City Council.
  - Colchester Borough Council.
  - Maldon District Council.
  - Rochford District Council.
  - Southend Borough Council.
  - Tendring District Council.
  - Thurrock Borough Council.
- 5.9 Within the HRA for the Basildon Borough Draft Local Plan, it was recommended that the potential for recreational disturbance arising from growth in Basildon Borough to cause harm to European sites on the Essex Coast could be managed through appropriate on-site provision of open space within development sites. However, Natural England, whilst welcoming this measure, indicated within its consultation response to the Draft Local Plan that this may not be sufficient to fully offset the recreational impacts of growth, as the coast is in itself an attractor of recreational activities, which cannot be recreated in non-coastal locations.
- 5.10 In March 2016, Natural England, as both a statutory consultee and defined 'Duty to Cooperate' public body made an objection to the Basildon Borough Draft Local Plan and HRA setting out concerns in this regard that would need to be resolved prior to the adoption of the Local Plan. This was reported back to the former Cabinet in September 2016 which determined that work should be undertaken in relation to policies within Chapter 16 of the Local Plan (The Natural Environment) in order improve the soundness of the Local Plan (Action 45).
- 5.11 In March 2017, Council officers and LUC met with representatives from Natural England to discuss a way forward that would enable the Basildon Borough Local Plan to progress, whilst overcoming its concerns. It was clear from this meeting that Basildon Borough Council could not resolve the objection in isolation to other local authorities and a coordinated approach would need to be brokered under the Duty to Cooperate to the satisfaction of Natural England if the Basildon Borough Local Plan (and other Local Plans underway in Essex) are to ensure adverse effects on European sites are to be avoided.
- 5.12 Further discussions then took place amongst South Essex local authorities to alert them to the emerging issue and specialist legal advice was sought to ensure the Council was clear on its legal duties and what it could reasonably expect from others. The legal advice confirmed that the Council would need to resolve the outstanding objection from Natural England in relation to the recreational impacts of growth on European sites even if they were outside the Borough, if it is to be found legally sound, and capable of adoption.
- 5.13 In September 2017, Natural England met with officers of those authorities with advanced emerging Local Plans in Essex, including Basildon, and advocated that it would be better to secure a joint approach to addressing this issue given that local authorities such as Basildon and Chelmsford, whilst within the zones of influence for Essex Coast European sites, do not have coastline in their areas and cannot therefore deliver any necessary direct avoidance and mitigation measures themselves, and would therefore need the cooperation of others.

- 5.14 Following on from that initial meeting and through the brokering of the Essex Planning Officers' Association (EPOA) a further meeting was held in November 2017 of officers from all 11 affected Essex local authorities, as listed above, and Natural England. At this meeting, consideration was given to how cross-boundary recreational disturbance on European sites had been addressed elsewhere in the UK to ensure compliance, with examples around the Solent and on the Suffolk coast considered. In both of these cases, a RAMS has been prepared. The RAMS identifies the measures needed to direct recreational activities away from the most sensitive areas for nature conservation, and also agrees measures to mitigate the residual harm arising from recreational activities that cannot otherwise be avoided. Measures typically incorporated in a RAMS include:
- Management measures in relation to existing country parks.
  - Provision of new or extended green spaces as part of new developments.
  - Visitor management measures for key European sites.
  - Monitoring the impact of recreational pressure on birds and vegetation in protected sites.
- 5.15 In relation to these other examples, it has been possible to consider lessons learnt from the practice of other local authorities through discussions with their officers. One such recommendation was that the scale and complexity of the project needs a dedicated Project Manager. This is considered to be particularly important given the large number of local authorities which would be party to an Essex Coast RAMS. Additionally, RAMS themselves are particularly large and technical documents. Both the Solent and more recently Suffolk Coast local authorities have developed Supplementary Planning Documents, to exist alongside their Local Plans and RAMS to help interpret its requirements at a planning application level.
- 5.16 Natural England, which has been party to the meetings held to date, has indicated verbally that they are pleased with the way the local authorities have come together so far in relation to this matter, and also with the proposal that a RAMS should be developed to remedy the issue. They have indicated that an Essex Coast RAMS would satisfy their concerns around recreational impacts on the Essex Coast Natura 2000 sites, but it needs to be in place before any of the affected local authorities can legally adopt their plans.
- 5.17 The North Essex Local Plans (Braintree, Colchester and Tendring) are the most advanced in Essex having been submitted to the Secretary of State in October 2017 and are expected to be adopted in the autumn of 2018, assuming they are found sound by the Planning Inspectorate. The RAMS therefore needs to be finalised by that time. This timing would also benefit Basildon Borough's Local Plan, as it would therefore be available in time for Basildon's Examination in Public, assuming the timescales in the adopted Local Development Scheme are met<sup>15</sup>.
- 5.18 Following professional support from the Essex Planning Officers' Association to deliver a more coordinated approach, a proposal has therefore been developed by Place Services at Essex County Council for the preparation of an Essex Coast RAMS and associated Supplementary Planning Document. This will allow all 11 local authorities within the zones of influence for the Essex Coast European sites to work together to identify a strategy for avoiding and mitigating harm to these sites, thereby enabling their respective Local Plans to be adopted unhindered by a legal impediment and therefore deliverable without delay. The proposal also includes the provision of an experienced Project Manager who has previously worked on a joint plan covering 10 local authority areas. The proposal would see a RAMS prepared by Autumn 2018.

#### *Commitment within the Local Plan*

- 5.19 Policy NE1 of the Publication Local Plan specifies that "*The Council will work with partners to prepare and deliver a Recreation Avoidance and Mitigation Strategy (RAMS) for the Essex Coast Natura 2000 sites, ensuring that recreational activities resulting from the population growth arising in this plan, and the plans of other nearby authorities, is managed and mitigated in such a way as to avoid harm to these important nature conservation designations*". This, together with a memorandum of understanding between the Essex Authorities clearly demonstrates a robust level

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<sup>15</sup> It should be noted that in a letter dated 8 June 2018 to Braintree, Colchester and Tendring local planning authorities, the Inspector appointed to examine the North Essex Section 1 Local Plan has identified the need for further evidence gathering to take place before the examination can resume, which is likely to lead to delays in the timetable for completing the examination of the North Essex Section 1 Local Plan. However, at this point in time, it is considered unlikely that the examination of the Basildon Local Plan will be completed in advance of the examination of the North Essex Section 1 Local Plan.

of commitment to implementing an Essex RAMS, and avoiding harm to European sites as a result of recreational increases.

#### *Memorandum of Understanding*

- 5.20 In order for the 11 local authorities to demonstrate that they are working effectively together to address this cross-boundary matter, a Memorandum of Understanding (MoU) has been prepared setting out the steps the authorities will take in partnership. Each local authority has been invited to sign this MoU as a demonstration of this commitment. In signing the MoU, the local authority has demonstrated that it is fulfilling the Duty to Cooperate in relation to this matter, both in respect of neighbouring authorities and also in respect of Natural England which is also a Duty to Cooperate body. This will help to ensure that the Local Plan can proceed towards adoption in the knowledge that the legal requirements of the Conservation of Habitats and Species Regulations 2017 are being adequately addressed.

#### **Key Principles of RAMS**

- 5.21 A key aspect of the RAMS will be the need for an adaptive and pre-emptive approach which responds to monitoring results. The nature, location and frequency of visitor patterns and bird distribution are subject to change. As a result, the mitigation measures being delivered by the RAMS are likely to require ongoing refinement in response to changes identified by monitoring results. This will ensure that impacts on European sites are identified at an early stage and pre-empted, thereby enabling timely remedial measures to be put in place to avoid such impacts ever resulting in Adverse Effects on Integrity (AEOI).
- 5.22 Key principles upon which the RAMS should be based, including the use of appropriate funding mechanisms, requirements for updated monitoring, and the specific measures required in terms of provision of open space and green infrastructure and on-site management of European sites, are outlined below. It is expected that these principles will be further developed by the Essex Authorities in close consultation and agreement with Natural England to ensure that a suitable draft RAMS is in place prior to adoption of the Basildon Local Plan.

#### *Mechanisms of funding and delivery*

- 5.23 Discussions with Natural England have identified that the preference for delivery of a RAMS will be via a Supplementary Planning Document (SPD). Examples of mitigation strategies being provided in the form of an SPD include the Thames Basin Heaths SPA Avoidance and Mitigation SPD (TBH SPD), which was developed to provide guidance to ensure that new development does not have adverse effects on this SPA which is designated for heathland birds susceptible to recreational pressures.
- 5.24 The TBH SPD has been adopted by eleven local authorities which incorporate the SPA's zone of influence and involves an approach to mitigation which includes i) provision of Suitable Alternative Natural Greenspace (SANGs), and ii) Access Management. The TBH SPD provides a specific approach to access management and it is recommended that RAMS produced by the Essex Authorities should adopt a similar approach to delivery. The TBH SPD specifies that existing landowners and managers should deliver access management and funding should come from developer contributions, with funding provided in perpetuity. Access management is coordinated strategically by Natural England working with local authorities in line with an overarching strategy.
- 5.25 As per the TBH SPD, it is recommended that an Essex Coast RAMS includes access management at the SPAs which is funded by a charge levied on developer contributions which includes an allowance for the cost of this service, and that the charge collected in relation to access management measures are pooled for strategic allocation.
- 5.26 To ensure that there is a sufficient level of certainty that the RAMS will successfully mitigate the recreational impacts identified in this assessment, and will continue to do so for the lifetime of the Basildon Local Plan, a draft will need to be prepared and approved by Natural England prior to adoption of the Local Plan.

#### *Provision of updated visitor monitoring*

- 5.27 To ensure that the RAMS continues to be based upon up-to-date information, it is recommended that updated visitor monitoring is undertaken in the first two years of the Local Plan being

adopted, and is repeated no less frequently than once every five years. This will ensure that the RAMS provides an up to date baseline against which to measure the status, extent and effect of recreational pressures going forward, and will ensure that the mitigation measures committed to in the RAMS continue to be based upon up to date information and in agreement with Natural England.

- 5.28 It will also be important to ensure that up to date bird data are available to inform mitigation measures. This is regularly undertaken at each of the European sites as part of the BTO's WeBS Core Counts and Low Tide Counts. It is therefore predicted that such information will be available but, to ensure certainty, a commitment will be required by the Council that, in the unlikely event that suitably up to date bird survey data are not available during each five year period, they will undertake equivalent survey work to inform the RAMS.

#### *Provision of open space and green infrastructure*

- 5.29 Given the unique nature and attraction of these coastal European sites, provision of alternative open space is less applicable as a mitigation measure and therefore the focus of the RAMS should be primarily on access management and monitoring as described below.
- 5.30 Nevertheless, despite not being the key focus, the provision of alternative natural green space and green infrastructure (GI) represents an important aspect of the overall mitigation required. The provision of alternative greenspace in mitigating the effect of recreational pressures on sensitive European sites is actively encouraged by Natural England elsewhere. For example it forms a key component of the Thames Basin Heaths Delivery Framework. Therefore, the strategic approach to incorporating protective measures specified in the Basildon Borough Publication Local Plan is considered likely to provide an effective contribution in mitigating significant effects associated with recreation.
- 5.31 To maximise the effectiveness of its role in mitigating recreational impacts on the coastal European sites, the design and management of open space and green infrastructure will need to be focused towards attracting those groups of visitors who regularly visit the European sites.
- 5.32 Despite commitments in the Publication Local Plan to minimum standards for open space and protection and enhancement of GI, in order for such measures to effectively contribute towards mitigating recreational impacts at European sites, the design and management of GI and open space will need to be specifically designed and managed to provide a desirable alternative location for the regular daily activities typically undertaken by local residents at European sites, including most notably walking and dog walking. This can be achieved by ensuring that the management of such sites is specifically targeted towards ensuring that these target groups are provided for. For example, sites which provide parking, a range of walking routes including short and long distance options, and which encompass a range of habitat types, are perceived as being safe, and provide areas which are safe for dogs to exercise off of leads and which provide dog bins are likely to be particularly appealing.

#### *Watercraft disturbance - Code of Conduct*

- 5.33 Water-based recreational activities are likely to be more prevalent during summer months when disturbance to bird populations for which the European sites are designated is less likely. Nevertheless, water based recreation does occur during the winter and passage months, and where such activities occur in close proximity to important bird areas, there is a high probability of disturbance to birds while feeding or roosting in otherwise undisturbed locations.
- 5.34 It is difficult to manage and monitor the location and frequency of water activities because they are less predictable and take place in inaccessible locations. As a result, it is recommended that the most appropriate means of reducing the frequency and severity of such activities is by promoting a Code of Conduct and encouraging increased self-regulation from participants. This could be achieved via an education and awareness campaign targeted at the leisure operators, marinas, sailing clubs and holiday parks, in addition to quaysides, jetties and other launch sites. Such an approach could be undertaken via a targeted programme of education including via promotional leaflets, posters and signage.
- 5.35 A watercraft Code of Conduct would not in isolation address all the issues associated with recreational pressures. Indeed, no one single measure should be solely relied upon. The purpose

of a RAMS, of which a Code of Conduct would form part, is to provide a suite of measures which, together, provide sufficient certainty that adverse effects on integrity would be avoided. A Code of Conduct would not guarantee the avoidance of AEOI on its own, but it would likely provide an important role in encouraging people to undertake recreational activities responsibly, particularly if linked to penalties and enforcement as is intended.

- 5.36 Encouraging responsible recreation is a key measure endorsed by land managers of important wildlife sites across the country, including Natural England, RSPB and the Wildlife Trusts. These bodies regularly provide educational material at sites to encourage visitors to comply with key objectives. A good example is the long established mitigation strategies in place for heathland SPAs in the south of England where the use of educational material, including signage, leaflets and via wardening has been successful in encouraging people to put dogs on a lead, stick to accessible footpaths, and avoid activities which could otherwise be harmful to the SPA features.
- 5.37 A Code of Conduct approach would be targeted to the providers of recreational watercraft such as marinas, launch sites, boat yards and tourist operators, not to individual residences. This approach is not intended to mitigate for the small proportion of irresponsible people, but rather to educate and inform the majority of people who are keen to act in responsible and sensitive manner. Indeed, most forms of disturbance to birds from watercraft are a result of ignorance rather than intentional malice, and therefore whilst a Code of Conduct would not be solely effective at eliminating potential impacts, it has a key role to play in contributing to the effectiveness of overall mitigation and avoidance, and is therefore a key component of any RAMS

#### *On site management and monitoring*

- 5.38 The European sites are typically managed by Natural England, Essex Wildlife Trust and the RSPB. The RAMS will need to be developed in close consultation and agreement with these key stakeholders to ensure that the measures proposed will be targeted to resolving specific issues and recreational threats and maximum the benefit of the measures proposed in mitigating recreational impacts. It is recommended that this is achieved via a series of workshops for the specific European sites which includes appropriate stakeholder representatives such as site managers and area advisers.
- 5.39 Detailed and site specific management measures will be provided in the RAMS and should be specifically informed via the workshops and consultation described above. It is likely that key aspects of any RAMS will include, but not limited to, the following:
- Provision of physical barriers to movement (fencing, screening, planting and bird hides).
  - Provision of wardening, whether part-time, permanent or seasonal.
  - Provision of educational resources including promoting self-regulation.
  - Education initiatives such as provision of interpretation boards and signage, leaflets, posters, and liaison with local schools and leisure operators.
  - Provision of infrastructure to encourage activities to focus on specific areas, e.g. via path upgrades, provision of benches and signage etc.
  - Clear route signage.
  - Closure and rerouting of paths during sensitive periods.
  - Promoting a code of conduct aimed at providers and participants of water based recreational.
  - Habitat management and enhancement to provide locations for birds away from disturbance sources (e.g. high tide roosts).
- 5.40 As described above, to ensure that the RAMS continues to be based upon up-to-date information, regular monitoring will be required, with visitor and bird monitoring being required no less frequently than every five years. Bird surveys are regularly undertaken at each of the European sites as part of the BTO's WeBS Core Counts and Low Tide Counts and it is therefore predicted that such information will be available, but to ensure certainty, a commitment will be required by

the Basildon Borough Council together with the other Essex Authorities that in the unlikely event that suitably up to date bird survey data are not available during each five year period, they will undertake equivalent survey work to inform the RAMS.

### Thames Estuary and Marshes SPA and Ramsar Site

- 5.41 Whilst the zone of influence of this SPA/Ramsar includes much of Basildon, the majority of the site is separated from the Borough by the Thames Estuary. As a result, accessing the majority of this SPA/Ramsar would require a car journey in excess of 30 miles and require the use of the Queen Elizabeth II Toll Bridge, and therefore the Basildon Local Plan wouldn't be expected to contribute to increases in recreational pressures to the majority of this SPA/Ramsar.
- 5.42 However, a single component part of the SPA/Ramsar is located on the northern side of the River Thames at East Tilbury. Several site allocations are located within the 10km zone of influence for this component site, including H4, H6 to H11 which are located in and around Basildon. The component part of the site at East Tilbury includes the Coalhouse Fort and the Thurrock Thameside Nature Park, both of which are actively managed and have restrictions and specific infrastructure designed to restrict and control public access, in addition to active wardening.
- 5.43 In light of the above, the likelihood of increased population growth associated with housing allocations in the Basildon Local Plan adversely affecting the integrity of this SPA/Ramsar is considered low. When the additional approach to avoidance and mitigation outlined above is also considered, there is a sufficiently high level of certainty to enable a conclusion that **the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of the Thames Estuary and Marshes SPA and Ramsar, either alone or in-combination.**

### Crouch and Roach Estuaries SPA and Ramsar

- 5.44 The Crouch and Roach Estuaries SPA and Ramsar sites are located 1.5km to the northeast of Basildon Borough at the closest point. A zone of influence of 10km has been used for this SPA/Ramsar and therefore many of the housing allocations located in the east of the Borough, including around Wickford and Basildon, are located within the zone where they may contribute to increases in recreational pressures at the site. Such housing allocations include H4, H5, H11, H12, H13, H14, H15, H21, H22, and small parts of H19 and H20.
- 5.45 The closest part of the SPA to Basildon is comprised of the River Crouch, where public footpaths occur along much of both of the river banks for much of its length. As a result, the qualifying birds using the upper estuary are likely to be particularly susceptible to the effects of disturbance from walkers and dog walkers in this location.
- 5.46 Water based recreational activities including sailing, motorboats, and jet skis have also been identified as resulting in disturbance to SPA/Ramsar bird species. Within the Crouch Estuary, the primary marina's and launch sites are located at Burnham-on-Crouch and Althorne which are located over 10km from Basildon and therefore less likely to represent a significant threat. Nevertheless, the effect of water based recreation on SPA/Ramsar birds is difficult to predict and manage but studies from elsewhere in the UK<sup>16</sup> suggest that people will travel relatively far to partake in such activities, potentially including from within Basildon Borough.
- 5.47 Given the specialist nature of these waterbourne activities and that their prevalence is greater in the summer months when impacts to the wintering and passage bird features are unlikely, the increase in such activities as a result of the Publication Local Plan is considered likely to be small. Nevertheless, to enable a sufficient level of certainty that the policies contained in the Local Plan will not result in adverse effects on the Crouch and Roach Estuaries SPA and Ramsar, either alone or in-combination with wider strategic growth in South Essex, appropriate mitigation will be required.
- 5.48 An effective means of control is likely to be through the promotion of a Code of Conduct delivered primarily by marinas and leisure operators and incorporated as part of the RAMS approach as described above.

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<sup>16</sup> Cruickshanks, K., Liley, D., Fearnley, H., Stillman, R., Harvell, P., Hoskin, R. & Underhill-Day, J. (2010). Desk Based Study on Recreational Disturbance to birds on the Humber Estuary. Footprint Ecology / Humber Management Scheme



- 5.49 In summary, population growth and increased coastal visits as a result of the Basildon Local Plan is likely to contribute to increases in both land-based and water-based recreational pressures at the Crouch and Roach Estuaries SPA and Ramsar site, which both alone and in-combination with the wider strategic population growth in South Essex, has the potential, in the absence of mitigation and avoidance measures, to adversely affect the integrity of the site.
- 5.50 Nevertheless, the RAMS approach described above, which is actively being implemented by Basildon Borough Council in collaboration with the other Essex Authorities, is considered a suitably robust and appropriate measures to ensure that adverse effects on this SPA/Ramsar as a result of recreational pressures will be avoided. Therefore, **it has been concluded that the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of the Crouch and Roach Estuaries SPA and Ramsar as a result of recreational impacts, either alone or in-combination.**

### Essex Estuaries SAC

- 5.51 Essex Estuaries SAC is designated for the presence of coastal and inter-tidal habitats and the area of coverage in South Essex is largely shared with the Crouch and Roach Estuaries SPA and Ramsar. The habitats for which the SAC is designated are resilient to the disturbance impacts described above for the Crouch and Roach Estuaries SPA and Ramsar, but this site is vulnerable to the physical damage which can be caused by water based recreation. The SAC is far less susceptible to the effects of trampling and erosion because the inaccessibility of inter-tidal habitats provide a natural deterrents to terrestrial based trampling and erosion.
- 5.52 The SAC is also vulnerable to the effects of localised nutrient enrichment and other negative factors associated with recreation such as littering, fire and vandalism, albeit the qualifying habitats, which are regularly inundated by tidal waters are not sensitive to such factors at this scale.
- 5.53 As a result, the primary threat for the Essex Estuaries SAC in relation to recreation is associated with increases in waterbourne activities as described above for the Crouch and Roach Estuaries SPA and Ramsar. Within the Crouch Estuary, the primary marinas and launch sites are located at Burnham-on-Crouch and Althorne which are located over 10km from Basildon and therefore less likely to represent an increased threat as a result of the Local Plan. Nevertheless, the effect of water based recreation on SAC habitats as a result of recreational activities is difficult to predict and manage and studies from elsewhere in the UK suggest that people will travel relatively far to partake in such activities, potentially including from within Basildon Borough.
- 5.54 An effective means of control is likely to be through the promotion of a Code of Conduct delivered primarily by marinas and leisure operators and incorporated as part of the RAMS approach as described above.
- 5.55 In summary, population growth and increased coastal visits as a result of the Publication Local Plan is likely to contribute to increases in recreational pressures at the Essex Estuaries SAC, with water based activities being the most notable in terms of their threat. Both alone and in-combination with the wider strategic population growth in South Essex, this has the potential, in the absence of mitigation and avoidance measures, to adversely affect the integrity of the site.
- 5.56 Nevertheless, the RAMS approach described above, which is actively being implemented by Basildon Borough Council in collaboration with the other Essex Authorities, is considered a suitably robust and appropriate measures to ensure that adverse effects on this SPA/Ramsar as a result of such recreational pressures will be avoided. Therefore, **it has been concluded that the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of the Essex Estuaries SAC as a result of recreational impacts, either alone or in-combination.**

### Benfleet and Southend Marshes SPA and Ramsar Site

- 5.57 Benfleet and Southend Marshes SPA and Ramsar is located 2km to the southeast of Basildon Borough at the closest point, and 4.4km from the closest housing allocation.
- 5.58 A zone of influence of 10km has been applied to this SPA/Ramsar. This zone encompasses housing allocations H4, H5, H6, H7, H10, H11, H12, H13, H14, H15, and H22.

- 5.59 The SPA and Ramsar are designated for the presence of passage and wintering waders and wildfowl which are highly susceptible to the effects of recreation, both from terrestrial (walkers and dog walkers) and marine (watercraft) sources. As a result, the above housing allocations are likely to contribute to increases in recreation which could lead to adverse effects on site integrity in the absence of mitigation.
- 5.60 Basildon Borough Council supports a number of alternative options for residents seeking coastal recreational experiences, with Bowers Marsh, Wat Tyler Country Park and South Essex Marshes Nature Reserve all being located in closer proximity to housing allocations and each providing their own unique attraction and a range of visitor facilities. As a result, the presence of these sites, where visitor management is actively implemented, are likely to reduce the likelihood of recreational activities being targeted to less accessible locations at the SPA and Ramsar.
- 5.61 To enable a sufficient level of certainty that the policies contained in the Local Plan will not result in adverse effects on the Benfleet and Southend Marshes SPA/Ramsar, either alone or in combination with wider strategic growth in South Essex, appropriate mitigation in the form of the RAMS approach outlined above will be required. The RAMS approach described above, which is actively being implemented by Basildon Borough Council in collaboration with the other Essex Authorities, is considered a suitably robust and appropriate measure to ensure that adverse effects on this SPA/Ramsar as a result of such recreational pressures will be avoided. Therefore, **providing the RAMS is successfully implemented the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of the Benfleet and Southend Marshes SPA and Ramsar as a result of recreational impacts, either alone or in combination.**

### Summary Conclusion

- 5.62 In summary, the implementation of RAMS is now a widely advocated means of mitigating impacts associated with recreation at European sites. In light of this, and given the progress made with other Essex Authorities, the favourable timeframes involved, and as a result of extensive consultation with Natural England, there is a high degree of confidence in the appropriateness and likely effectiveness of such a measure. The production and implementation of RAMS which includes a commitment to regular monitoring, and which has the flexibility to adapt to findings and pre-empt impacts is considered likely to provide an effective form of mitigation and avoidance for recreational pressures on the European sites.
- 5.63 As a result, providing that a RAMS continues to be prepared by the Essex Authorities in accordance with the principles outlined above, is developed in close consultation with Natural England, and is ready for implementation prior to adoption of the Plan, recreational impacts on European sites will be avoided. Therefore, **the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of the Essex Estuaries SAC, Crouch and Roach Estuaries SPA and Ramsar, Thames Estuary and Marshes SPA and Ramsar Site, and Benfleet and Southend Marshes SPA and Ramsar Site, either alone or in combination with other plans and projects as a result of recreational impacts.**

### Water Quality

- 5.64 The Screening stage could not rule out the potential for likely significant effects for Policies SD1, R2, R3, R5, H1, H3, H4, and H5-H23. Whilst development site-level information from AWS suggests that WRC capacity is available to accommodate many of the proposed housing allocations individually, infrastructure and/or treatment upgrades may be required to accommodate their cumulative effect, as well as development sites with planning permission but with houses yet to be constructed. Capacity in the foul sewerage network was identified as a concern for most site allocations individually, even before consideration of cumulative effects.
- 5.65 Strategic development Policy SD1, the strategic housing Policy H1 and the implementation strategy in Policy IMP1 state that growth will be phased to align with provision of the infrastructure needed to support it. Individual strategic housing and mixed use allocation policies restate this and, where relevant to the location, draw attention to the particular need to phase development to align with any required improvements to the drainage network or at the nearby

WRC. They also require landscape buffers to be multi-functional, these functions to include surface water management such as Sustainable Drainage Systems (SuDS).

- 5.66 A more generic requirement to avoid harm to biodiversity is stated in housing allocation Policies and Policy NE4 states that proposals resulting in impacts in European sites will not normally be permitted.
- 5.67 The Environment Agency regulates discharges to water via its environmental permitting regime. Any extension to existing discharge consents held by WRCs would be subject to this regime and, where relevant, the Environment Agency would also subject the proposal to HRA.
- 5.68 The possibility of reduced water quality effects on the European sites scoped into the Basildon Local Plan HRA was identified within the HRAs of a number of the other plans and projects reviewed in Appendix 2, as a result of pressure on wastewater infrastructure capacity in those other districts (for example the Local Plans for Chelmsford City, Gravesham District, Maldon District, and Rochford District). However, those HRAs were able to rule out residual adverse effects, either at the Screening or Appropriate Assessment stage of HRA, by reliance on mitigation such as Local Plan policies to ensure provision of new infrastructure and operation of the discharge consenting regime operated by the Environment Agency.
- 5.69 Should it not prove feasible to deliver wastewater infrastructure improvements required to avoid deterioration in downstream water quality alongside the development proposed by the Publication Local Plan, the safeguards described under 'mitigation' above should ensure that development does not proceed.
- 5.70 Correspondence between the Council and the Environment Agency<sup>17</sup> provides additional certainty that the total numbers of houses allocated in the Publication Local Plan to Wickford, Pitsea and Basildon could be accommodated within the capacity of the wastewater treatment capacities of the corresponding WRCs. The allocation to Billericay is identified as being very close to the WRC capacity and likely to require an increase to the permitted capacity or connection of some of the development to other WRCs; the Environment Agency recommends that development be phased until additional sewage treatment capacity becomes available.
- 5.71 In light of the mitigation available it is therefore concluded that **adverse effects on integrity can be ruled out in relation to the potential for Basildon Borough Publication Local Plan proposals to result in reduced water quality on European sites, either alone or in combination.**

## Flood Risk

- 5.72 The Screening stage could not rule out the potential for likely significant effects as a result of flood risk for Policies E5, E6, R13, H4-H22.
- 5.73 Development on these greenfield locations could create impermeable surfaces and thereby increase surface drainage rates. Taken together, these have the potential to increase flood risk at downstream European sites.
- 5.74 For the small number of allocations that contain an area in Flood Zone 3 (Policies R5, H11, H13), the proportion of the site within Flood Zone 3 is so small that it should be possible to avoid development in that part of the site and even if this were not the case, the loss of flood storage and consequent potential for increased flood risk downstream would be negligible.
- 5.75 Policies CC2 and CC4 state that the Council will ensure that new development does not increase the risk of flooding elsewhere. All development proposals must incorporate sustainable drainage systems (SuDS) which attenuate surface water on-site and slow run off to natural levels and which have the capacity to cope with extreme rainfall events. Where surface water cannot be attenuated fully on-site, contribution to off-site surface water management may be acceptable if it offsets the residual development impacts.

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<sup>17</sup> Email from the Environment Agency to Basildon Borough Council dated 20/11/2015

- 5.76 A more generic requirement to avoid harm to biodiversity is stated in housing allocation policies and Policy NE4 states that proposals resulting in adverse impacts within European sites will not normally be permitted.
- 5.77 The possibility of increased flood risk effects on the European sites scoped into the Basildon Local Plan HRA was not identified within the HRAs of the other plans and projects reviewed in **Appendix 2**. In any event, those HRAs were able to rule out all residual adverse effects, either at the Screening or Appropriate Assessment stage of HRA, by reliance on mitigation. Similarly, the mitigation considered for the Basildon Borough Publication Local Plan has allowed residual increased flood risk effects on European sites to be ruled out. The possibility of effects in-combination with other plans and projects is therefore ruled out.
- 5.78 The mitigation described above would ensure that development does not increase surface run off rates from impermeable, built surfaces, including during extreme rainfall events. It is therefore concluded that **adverse effects on integrity can be ruled out in relation to the potential for Basildon Borough Publication Local Plan proposals to result in increased flood risk at downstream European sites, either alone or in-combination.**

## Loss of Offsite Habitat

- 5.79 The Screening stage identified that the potential for likely significant effects as a result of loss of offsite functionally linked land is restricted to lapwing populations of the Thames Estuary and Marshes SPA only. Other species for which the Thames Estuary and Marshes SPA is designated would not be expected to rely upon the habitats affected due to the distance of several kilometres between the sites.
- 5.80 The Screening stage also concluded that the loss of offsite habitat will not result in likely significant effects on other European sites because they are located over two kilometres from site allocations and do not support qualifying species which would be expected to rely upon inland habitats beyond this distance.
- 5.81 In light of the above, this Appropriate Assessment stage seeks to determine the importance of housing allocation sites in the Publication Local Plan for the lapwing populations of the Thames Estuary and Marshes SPA/Ramsar, and whether the loss of habitat associated with housing allocations will adversely affect the integrity of the Thames Estuary and Marshes SPA and Ramsar as a result of the loss.
- 5.82 A desk-based study was undertaken to identify potential impacts from proposed allocations on offsite habitat used by lapwing. The desk based study has relied on a sequential approach, whereby if a site's suitability for lapwing is considered negligible or low for a specific reason (e.g. poor landscape connectivity or unsuitable habitat type) no further investigations for that allocation were carried out. If, following the initial review of distance and habitat, a site's potential suitability for supporting notable numbers of lapwing could not be ruled out, a more detailed assessment including mapping of existing relevant bird records may be required. The initial desk study included the following components to inform the assessment:
- A review of aerial imagery and Magic Map Application to identify main habitat types and land use within each site allocation and establish their potential value for qualifying birds.
  - Recognition of factors likely to affect suitability of allocations for bird species, including openness, size, shape, proximity of negative factors such as tall boundary features and urban environs, and potential existing sources of disturbance.
  - Consideration of the site's location within the landscape. For example, is there direct functional connectivity along flight lines between the allocation and the European sites? Are there landscape scale features which would reduce the suitability of the allocation, e.g. urban areas located along flight lines?

### Lapwing habitat preferences

5.83 Lapwing habitat preferences were cross referenced against the habitat types present within each allocation (taking into account the factors listed above) to determine the suitability of site allocations for qualifying species. Known habitat preferences for wintering lapwing were taken from *Birds of the Western Palearctic*, British Trust for Ornithology, and are described as follows:

*“Requires ready access to soil carrying appreciable biomass of surface or subsurface organisms, not arid and preferably moist or near saturation. Habitat may be flat, gently undulating or on terrace or plateau but not normally steep or rocky, and must not impede easy walking. Invariably chooses unenclosed terrain affording unbroken all-round views. Throughout historical times, natural habitat has been encroached with suitable substitutes created through farming, with a shift from natural to agricultural land. General habitat preferences include a preference for short grazed permanent pasture and to a lesser extent, arable fields”.*

### Assessment of Suitability of Each Site Allocation

5.84 Following the establishment of typical habitat preferences, each allocation site in the Basildon Local Plan was assessed for its suitability in supporting notable numbers of lapwing. The assessment is provided in **Table 5.1** below and was based on the combination of a number of parameters, as described below, and was also subject to professional judgement and interpretation.

- **High Suitability:** Large open sites; area of suitable habitat (e.g. short wet grasslands, permanent pastures, arable) capable of supporting significant numbers of birds; absence of any notable negative factors such as Public Rights of Way (PRoW) and edge features; land parcel functionally linked with wider habitat and directly linked to SPA via green corridor; site may be prone to saturation; typically close to SPA/Ramsar and coast. Likely to be important in contributing to the extent and distribution of SPA/Ramsar lapwing populations.
- **Moderate Suitability:** Sites support large areas of functionally linked suitable habitat capable of attracting notable numbers of lapwing, which by themselves are unlikely to be significant but which may contribute to supporting significant numbers of lapwing in-combination with other sites. Likely to be further from SPA/Ramsar and coast, and with presence of some limiting factors. May be important in contributing to the extent and distribution of SPA/Ramsar lapwing population in-combination with other sites.
- **Low Suitability:** Smaller or fragmented sites; habitats present may be suitable for supporting low numbers of lapwing on occasion but limited by negative factors such as size, distance from SPA/Ramsar; absence of sight lines and reductions in ‘openness’ as a result of edge features such as trees, scrub, and buildings; edge features likely to be closer to centre of site; suitability may be compromised by existing recreational use; may be isolated within urban areas. Unlikely to be important in contributing to the extent and distribution of lapwing populations.
- **Negligible:** Habitats present are entirely unsuitable for lapwing, for example existing developed land or small urban infill sites.

**Table 5.1 Assessment of site allocations for Lapwing**

Site Allocation	Review of Site Parameters	Assessment of Suitability for SPA Qualifying birds
H4	Policy allocates 3 new sites for a total of 5 gypsy and traveller pitches in North Benfleet, Fobbing and Crays Hill and notes provision the be delivered through other site allocation policies, notably Policy H5 and E6. The three new sites located in Crays Hill, North Benfleet and Fobbing are small	Negligible

Site Allocation	Review of Site Parameters	Assessment of Suitability for SPA Qualifying birds
	infill developments. The Crays Hill site is located on the site of an existing residential development; the North Benfleet site is located on an area of overgrown scrubland with limited openness; and the site located in Fobbing contains scrubland with some outbuildings.	
H5 & E5	Small pastoral fields enclosed by urban areas and lacking functional connectivity to the coast.	Negligible
H6	A large site allocation which comprises of 13 smaller field enclosures comprised of pasture. Grasslands appear to be rough which is likely to notably reduce suitability for lapwing. Fields surrounded by woodlands, school and hospital site which limit its connectivity to wider landscape. Fields interspersed and enclosed by prominent boundary features which limit its openness.	Low
H7	Much of site is existing industrial, and pastoral fields are small and surrounded by prominent boundary features in form of hedges, fences and woodlands.	Low
H8	Comprised of 3 smaller pastoral field enclosures interspersed and surrounded by linear features and adjacent to a mobile home site.	Low
H9	Comprised of small pastoral field enclosures surrounded by limiting boundary features such as tree lines and hedges and urban areas, and lacks connectivity with SPA/Ramsar being separated by the urban area of Basildon.	Negligible
H10	As per H9.	Negligible
H11	A large site allocation but comprised of small and narrow individual pastoral fields which significantly reduces the distance from edge and limits the openness preferred by lapwing. Fields are adjacent to housing and enclosed by prominent boundary features including tree lines and hedgerows which further reduce suitability for lapwing.	Low
H12	Pastoral fields enclosed by urban edges and prominent boundary features, and distance of 12.5km from the SPA.	Negligible
H13	Dominated by scrub habitats which are entirely unsuitable.	Negligible
H14	Small and narrow field enclosures separated from SPA by 13km and the urban areas of Wickford and Basildon.	Negligible
H15	Small individual field enclosures surrounded by prominent boundary features including woodlands and tree lines.	Negligible
H16	Located 15km from the SPA and separated by the urban areas of Billericay, Basildon and Wickford, and comprises small field enclosures enclosed by prominent edge features such as woodland and tree lines.	Negligible
H17	A large site allocation comprising several smaller component sites. Located 13km from the coast and separated by the urban area of Basildon. Most of the field enclosures are interspersed and separated by prominent field boundary features including woodlands, hedgerows and tree lines.	Low
H18	A relatively large single field of short pasture, but it's suitability for lapwing is greatly reduced by its enclosure on all sides by woodland or housing, its distance of 13km from the SPA, and separation from the coast by the urban area of Basildon.	Negligible

Site Allocation	Review of Site Parameters	Assessment of Suitability for SPA Qualifying birds
H19	As per H18.	Negligible
H20	Small field enclosures which support longer grasslands and scrub habitats unsuitable for lapwing.	Negligible
H21	Comprised of smaller sites which support pastoral habitat. Small size and distance and separation from the SPA make these allocations unsuitable for supporting SPA lapwing populations.	Negligible
H22	As per H21.	Negligible
E6	A large arable field located at northeast edge of Basildon. The large field size and arable habitat provide suitable conditions for supporting lapwing, but given the sites separation from the SPA/Ramsar by the urban area of Basildon.	Low

- 5.85 The desk-based review of site allocations identified that each of the site allocations were considered to be of low or negligible suitability for supporting significant numbers of lapwing, either alone or cumulatively with other allocations because each site allocation supported a number of limiting factors such as sub-optimal habitat, small field size, the presence of prominent edge features, and geographic isolation from the SPA/Ramsar.
- 5.86 In addition to the housing allocations, Policy SD3 allocates minimum housing targets of 1,350 homes and 39 homes for Neighbourhood Plan Areas Bowers Gifford and North Benfleet and Ramsden Bellhouse, respectively – to be delivered through Neighbourhood Plans. It is not possible to assess the potential effects of these homes on lapwings until the location of the homes is confirmed within the Neighbourhood Plans. The Neighbourhood Plans will then be subjected to HRA.

### Summary Conclusion

- 5.87 Site allocations in the Publication Local Plan were individually assessed to determine their suitability for supporting lapwing to a degree which could be considered of importance in supporting the Thames Estuary and Marshes SPA and Ramsar population of this species, either individually or in-combination between allocations. The assessment determined that each of the site allocations are of low to negligible suitability for supporting significant numbers of lapwing because of a range of negative factors. As a result, **habitat loss associated with the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of the Thames Estuary and Marshes SPA or Ramsar.**

## 6 Conclusion

- 6.1 The HRA Screening stage identified that further consideration was required at the Appropriate Assessment stage to determine whether the Basildon Local Plan, either alone or in-combination, would adversely affect the integrity of European sites as a result of increases in recreational pressure, changes in water quality and quantity, increased flood risk, and loss of offsite habitat.
- 6.2 With regards to recreational pressures, the implementation of recreational avoidance and mitigation strategies (RAMS) is now a widely advocated means of mitigating impacts associated with recreation at European sites. In light of this, and given the progress made in developing an Essex Coastal RAMS with other Essex Authorities, and as a result of extensive consultation with Natural England, there is a high degree of confidence in the appropriateness and likely effectiveness of such a measure. The production and implementation of a RAMS which includes a commitment to regular monitoring, and which has the flexibility to adapt to findings and pre-empt impacts is considered likely to provide an effective form of mitigation and avoidance for recreational pressures on the European sites. As a result, providing that a RAMS continues to be prepared by the Essex Authorities in accordance with the principles outlined in the HRA report, is developed in close consultation with Natural England, and is ready for implementation prior to adoption of the Plan, recreational impacts on European sites will be avoided. Therefore, **the Basildon Borough Publication Local Plan will not result in adverse effects on the integrity of European sites, either alone or in-combination with other plans and projects as a result of recreational impacts.**
- 6.3 With regards to water quality and quantity (flood risk), the provision of mitigation and avoidance safeguards committed to in the Local Plan were considered sufficient to provide assurance that new phases of development would only be delivered when the necessary infrastructure upgrades and provisions are in place. This was considered suitably robust to ensure that **adverse effects on the integrity of European sites as a result of change in water quality or quantity arising from Basildon Borough Publication Local Plan would be avoided, either alone or in-combination.**
- 6.4 With regards to loss of offsite habitat, site allocations were individually assessed to determine their suitability for supporting lapwing to a degree which could be considered of importance in supporting the Thames Estuary and Marshes SPA and Ramsar populations of this species, either individually or in-combination between allocations. The assessment determined that each of the site allocations are of low or negligible suitability for supporting significant numbers of lapwing because of a combination of a range of negative factors. Such factors typically included the presence of unsuitable habitat types, distance, small size of field enclosures, the presence of prominent boundary features and isolation in the ecological landscape. As a result, **the Basildon Borough Publication Local Plan will not result in adverse effects on European sites as a result of habitat loss, either alone or in-combination.**

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October 2018



# Appendix 1: Attributes of European sites

This appendix contains information on the European sites scoped into the HRA. Site areas and designated features are drawn from SAC and SPA Standard Data Forms and Ramsar Site Information Sheets<sup>18</sup>. The overviews of sites and their locations are drawn from Natural England's Site Improvement Plans<sup>19</sup>. Site conservation objectives are drawn from Natural England's website and are only available for SACs and SPAs.<sup>20</sup>

## Abberton Reservoir SPA

**Site area:** 726.2 ha

### Overview of site and its location

Abberton Reservoir is a large water storage reservoir close to the Essex coast. It is one of the most important reservoirs in the country for overwintering waterfowl and also supports substantial aggregations of moulting birds in early autumn and a large colony of tree-nesting cormorants. Causeways divide the reservoir into three sections. Currently the water level of the main, eastern section is being raised by 3 metres to increase storage capacity. As part of the level-raising scheme, the original concrete banks have been removed and the shoreline re-profiled, creating extensive new areas of shallow wetland habitat for the site's waterfowl.

### Qualifying Features

Supports the following internationally important waterbird assemblage:

- *Podiceps cristatus*: Great crested grebe (Non-breeding); *Phalacrocorax carbo*: Great cormorant (Breeding); *Cygnus olor*: Mute swan (Non-breeding); *Anas Penelope*: Eurasian wigeon (Non-breeding); *Anas strepera*: Gadwall (Non-breeding); *Anas crecca*: Eurasian teal (Non-breeding); *Anas clypeata*: Northern shoveler (Non-breeding); *Aythya farina*: Common pochard (Non-breeding); *Aythya fuligula*: Tufted duck (Non-breeding); *Bucephala clangula*: Common goldeneye (Non-breeding); *Fulica atra*: Common coot (Non-breeding); *Pluvialis apricaria*: European golden plover (Non-breeding).

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

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

### Pressures and threats

#### Siltation

Silt entering the reservoir via Layer Brook is gradually accumulating in the western and central sections. This increases water turbidity and reduces light penetration, limiting the growth of the submerged aquatic

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<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> Site Improvement Plans: East of England, Natural England, <http://publications.naturalengland.org.uk/category/4873023563759616>

<sup>20</sup> European Site Conservation Objectives, Natural England, <http://www.naturalengland.org.uk/ourwork/conservation/designations/sac/conservationobjectives.aspx>

plants on which the reservoir's fauna – including many of the waterbirds – largely depends. Siltation also reduces the water depth and increases the already high nutrient load. Now that concrete banks have been removed as part of the water-level raising scheme, siltation in the eastern section might also increase as a result of wave action until the earth banks have become vegetated. Essex and Suffolk Water is monitoring water quality, aquatic vegetation and bird numbers and carrying out a programme of work to accelerate vegetation colonisation of the new earth banks.

#### *Public access/disturbance*

Human disturbance to feeding and resting waterbirds reduces their energy intake and increases energy expenditure. This can be critical if the birds are already stressed by severe weather or other factors. Disturbance at ground level is well controlled by Essex & Suffolk Water, though there is occasional trespassing. Disturbance from the air by low-flying civilian and military aircraft occurs several times each year and is more difficult to manage.

#### *Planning Permission: general*

The reservoir's waterbirds often fly over surrounding farmland on their way to and from the nearby Blackwater and Colne estuaries. Some species also use the surrounding fields for feeding. Inappropriate development in the vicinity could therefore have adverse effects on them. Planning legislation and the Habitats Regulations provide regulatory mechanisms but for some new types of development, published data from well-designed impact studies at comparable sites appears to be limited.

#### *Changes in species distributions*

The reservoir's breeding colony of tree-nesting cormorants has declined from a peak of over 500 pairs in the mid-1990s to about 160 pairs in 2010. Reasons for the decline are unknown. Possibilities include a reduction in suitable nest sites, predation (possibly linked to lower water levels in the central section), cormorant control measures at fisheries, or a decline in summer food supply within foraging distance of the colony.

#### *Bird strike*

Mute swans, and possibly other species, have been killed as a result of colliding with overhead power lines near the reservoir.

#### *Water pollution*

Water stored in the reservoir is high in nutrients (eutrophic) as it comes from intensively farmed catchment areas. As a result, algal blooms are regular in summer. In some years these may include toxic blue-green algae that can kill wildfowl, though no significant mortality has been recorded.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

The site is identified as at risk from air pollution as Nitrogen deposition levels exceed the site-relevant critical load for ecosystem protection. However the site's Nitrogen load is likely to be dominated by levels in the water entering the reservoir (mainly from the distant Ouse catchment) rather than direct deposition.

## Abberton Reservoir Ramsar Site

**Site area:** 726.2 ha.

### **Overview of site and its location**

As for Abberton Reservoir SPA above.

### **Qualifying Features**

Supports 23787 waterfowl (5 year peak mean 1998/99-2002/2003), including the following internationally important waterbird assemblage:

- Gadwall , *Anas strepera strepera*; Northern shoveler, *Anas clypeata*; Eurasian wigeon, *Anas Penelope*; Mute swan, *Cygnus olor*; Common pochard, *Aythya farina*; Great cormorant, *Phalacrocorax carbo carbo*; Eurasian teal, *Anas crecca*; Tufted duck, *Aythya fuligula* ; Common coot, *Fulica atra atra* ; Pied avocet, *Recurvirostra avosetta*; Ruff, *Philomachus pugnax*; Black-tailed godwit, *Limosa limosa islandica*; Spotted redshank, *Tringa erythropus*; Common greenshank, *Tringa nebularia*; Common goldeneye, *Bucephala clangula clangula*.

### Conservation objectives

None available.

### Pressures and threats

As for Abberton Reservoir SPA above.

## Benfleet and Southend Marshes SPA

**Site area:** 2251.31 ha.

### Overview of site and its location

The Greater Thames Complex consists of the Thames Estuary and Marshes SPA, the Medway Estuary SPA, the Swale SPA and Benfleet & Southend Marshes SPA. The Medway Estuary feeds into and lies on the south side of the outer Thames Estuary in Kent, south-east England. It forms a single tidal system with the Swale and joins the Thames Estuary between the Isle of Grain and the Isle of Sheppey. The Swale is an estuarine area that separates the Isle of Sheppey from the Kent mainland and joins the Medway to the west. Benfleet and Southend Marshes is an estuarine area on the Essex side of the Thames Estuary. These four sites contain a wide diversity of coastal habitats, such as grazing marsh, saltmarsh and mud/sandflat and eelgrass beds that support important numbers of waterbirds throughout the year. Wintering birds that use these estuaries include grebes, geese, ducks and waders whilst in summer breeding birds can be found, such as waders and terns. The area is also important for spring and autumn migration periods.

### Qualifying Features

Site regularly supports 34789 waterfowl over winter, including the following waterbird assemblage:

- Dark-bellied brent goose, *Branta bernicla bernicla*.
- Grey plover, *Pluvialis squatarola*.
- Red knot, *Calidris canutus islandica*.
- Dunlin, *Calidris alpina alpina*.

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

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

### Pressures and threats

*Coastal squeeze*

Coastal defences exist along much of the coastline here. Sea level rise is also occurring. It is therefore certain that if circumstances do not change, much of the supporting habitats of the SPA birds will be lost/degraded through processes such as: coastal squeeze; sedimentation rates' inability to keep pace with sea level rise; and reduced exposure (the extent and duration) of mudflats and sandflats.

#### *Public access/disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities, including: boating and watersports; walking; bait-digging; fishing, and wildfowling. Some activities such as powerboating, may produce physical disturbance to habitats. Public access, (especially dog walking and recreational boating) was identified as a medium risk during the 2009 EMS risk review project and this activity is still occurring. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive. There is inadequate information to provide appropriate management.

#### *Invasive species*

Non-native invasive species such as sea squirt and pacific oyster are spreading along the Kent coast and could begin to impact on the Swale. Sea squirt has been found in the Medway, and Pacific oysters are regarded as increasing in the Essex-Southend area. These species threaten habitats due to their ability to smother substrate and other sessile organisms. There is no good understanding of the overall distribution of these species in this site. Assessment is needed in key areas of ports and marinas, where introductions tend to first occur.

#### *Changes in species distributions*

There is a decline in population size for some of the bird species on some of the SPAs<sup>21</sup>. These are likely to be influenced by a number of factors which may vary across the four SPAs. Some of these influences are site-based as described in other parts of this Plan and some relate to wider, broad-scale changes such as wintering species distributions and effects from breeding grounds outside the UK. A greater understanding of the relative importance of site-based and wider influences is required in order to identify the potential for further actions that might halt declines, restore populations or identify scenarios where it is thought unlikely that site-based measures will reverse population declines.

#### *Fisheries: Commercial marine and estuarine*

The extent and impacts of fisheries on private grounds, particularly in the Swale Estuary, needs to be better understood. There are particular concerns regarding the dredging of shellfish within the SPAs which are a food source for the protected birds.

#### *Invasive Species*

Freshwater non-native invasive species such as pennywort, crassula, parrots feather etc. can engulf ditches, leading to loss of habitat for diving ducks. Although there are some mechanisms in place to ensure ditch management, more baseline information is needed, particularly on those species for which ditch management is not the solution

#### *Invasive Species*

*Spartina anglica* may be increasing at the expense of other saltmarsh habitats with adverse implications for SPA bird roost areas in Benfleet & Southend Marshes.

#### *Vehicles: illicit*

The illicit use of motor vehicles (often bikes) occurs across the area. This can cause disturbance to SPA birds. This activity was identified as a medium risk during the 2009 EMS risk review project and is still occurring. Whilst various mechanisms are in place to prevent the use of vehicles they are clearly not entirely effective.

#### *Fisheries: Commercial marine and estuarine*

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<sup>21</sup> Cook A.S.C.P., Barimore C., Holt C.A., Read W.J. & Austin G.E. 2013. Wetland Bird Survey Alerts 2009/2010: Changes in numbers of wintering waterbirds in the Constituent Countries of the United Kingdom, Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs). BTO Research Report 641. BTO, Thetford.

Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites require assessment and (where appropriate) management. This assessment will be undertaken by Kent & Essex IFCA. For activities categorised as 'green', these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site

*Air Pollution: risk of atmospheric nitrogen deposition*

Nitrogen deposition exceeds site-relevant critical loads.

## Benfleet and Southend Marshes Ramsar site

**Site area:** 2251.31 ha.

### Overview of site and its location

As for Benfleet and Southend Marshes SPA above.

### Qualifying Features

Comprise an extensive series of saltmarshes, mudflats, and grassland which support a diverse flora and fauna, including internationally important numbers of wintering waterfowl:

- *Branta bernicla bernicla*; Dark-bellied brent goose (non-breeding).
- *Charadrius hiaticula*; Ringed plover (non-breeding).
- *Pluvialis squatarola*; Grey plover (non-breeding).
- *Calidris canutus*; Red knot (non-breeding).
- *Calidris alpina alpina*; Dunlin (non-breeding).

### Conservation objectives

None available.

### Pressures and threats

As for Benfleet and Southend Marshes SPA above.

## Blackwater Estuary (Mid-Essex Coast Phase 4) SPA

**Site area:** 4395.15 ha.

### Overview of site and its location

The Essex Estuaries SIP covers the Essex Estuaries SAC and five mid-Essex coast SPAs (Blackwater Estuary, Colne Estuary, Crouch and Roach Estuaries, Dengie and Foulness). The area is a typical, undeveloped, coastal plain estuarine system with associated open coast mudflats and sandbanks. Sub-tidal areas have a rich invertebrate fauna and there are extensive intertidal mudflats and sandflats. Four different saltmarsh features of European importance are represented as well as large areas of grazing marsh. The site is one of the most important areas for overwintering waterbirds in the UK and is of international importance for several breeding bird species.

### Qualifying Features

Qualifying Features (Waterbird assemblage):

- *Branta bernicla bernicla*: Dark-bellied brent goose (Non-breeding).
- *Aythya ferina*: Common pochard (Breeding).
- *Circus cyaneus*: Hen harrier (Non-breeding).

- *Charadrius hiaticula*: Ringed plover (Breeding).
- *Pluvialis squatarola*: Grey plover (Non-breeding).
- *Calidris alpina alpina*: Dunlin (Non-breeding).
- *Limosa limosa islandica*: Black-tailed godwit (Non-breeding).
- *Sterna albifrons*: Little tern (Breeding).

Additional Qualifying Features Identified by the 2001 UK SPA Review:

- *Tadorna tadorna*: Common shelduck (Non-breeding).
- *Recurvirostra avosetta*: Pied avocet (Non-breeding).
- *Charadrius hiaticula*: Ringed plover (Non-breeding).
- *Pluvialis apricaria*: European golden plover (Non-breeding).
- *Philomachus pugnax*: Ruff (Non-breeding).
- *Tringa totanus*: Common redshank (Non-breeding).

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

### Pressures and threats

#### *Coastal squeeze*

Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the SIP area are important for waterbirds and are also threatened by sea level rise because most are near or below mean high tide level, currently protected behind seawalls.

#### *Public Access/Disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities - including boating and watersports, walking, bait-digging, fishing and wildfowling - as well as low-flying aircraft. Some activities, such as powerboating, may produce physical disturbance to habitats. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive.

#### *Fisheries: Commercial marine and estuaries*

Commercial fishing activities categorised as Amber or Green under Defra's revised approach to commercial fisheries in EMSs are being assessed by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) to determine whether management is required. For activities categorised as Amber

and Green these assessments should take account of any relevant in combination effects with other fishing activities. Shellfish dredging over subtidal habitats has been identified as an Amber activity and is considered a high priority for assessment and development of possible management for the site.

#### *Planning permission: General*

Several of the issues affecting the Essex Estuaries and the management of disturbance effects on the sites are related to each other, and addressing them is likely to require an improved overview of the relative sensitivities of different habitats, species and locations to different types of development (perhaps summarised as sensitivity maps and matrices for the SIP area). Difficult issues include:

- (a) Assessing the cumulative effects of numerous, small and often 'non-standard' developments
- (b) Development outside the SPA/SAC boundaries can have negative impacts, particularly on the estuaries' birds
- (c) Assessing the indirect, 'knock-on' effects of proposals
- (d) Pressure to relax planning conditions on existing developments.

#### *Changes in species distributions*

Declines in the numbers of some of the waterbird species using the Essex Estuaries SIP area may be due to changes in their distributions or population levels at a national or continental scale, possibly linked to climate change. For example, milder winters may be allowing birds to overwinter closer to their northern breeding grounds, or changes on the breeding grounds may be reducing breeding success. When assessing SPA condition, distinguishing these types of large-scale effect from effects produced by changes within the site itself is important.

#### *Invasive species*

An increase in Pacific oyster *Crassostrea gigas* settlement and colonisation within the European Marine Site (EMS) may result in areas of foreshore being covered in such numbers as to make them difficult to access and utilise as feeding grounds for overwintering birds. The importance of Pacific oysters for the local shellfish industry is recognised, however we would not like to see an overall increase in the extent of foreshore across the EMS populated by Pacific oysters. Other non-native invasive species such as the American whelk tingle *Urosalpinx cinerea* and Slipper limpet *Crepidula fornicata* are known to occupy subtidal muddy habitats, potentially impacting native communities through competition for resources and predation.

#### *Fisheries: Recreational marine and estuarine*

Recreational bait digging may impact waterbirds by reducing prey availability and creating disturbance in intertidal feeding areas. It could also damage the intertidal mudflats and sandflats and associated sub-features and communities, such as eelgrass beds. The extent of the activity and potential impacts on site features are not currently well understood.

#### *Fisheries: Commercial marine and estuarine*

Bottom towed fishing gear (i.e. any fishing instrument designed to take sea fisheries resources from the seabed) has been categorised as a 'Red' for the interest features listed, specifically the seagrass beds *Zostera* spp, a sub-feature of the SAC, as part of Defra's revised approach to commercial fisheries management in European Marine Sites (EMS). Appropriate management measures will be implemented and enforced by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) who have put in place the 'Bottom Towed Fishing Gear Byelaw' within the SAC to prohibit the above fishing gear being used over the majority of known seagrass beds.

#### *Fisheries: Commercial marine and estuarine*

Marine fisheries carried out under private rights, or under management defined in Several or Hybrid Orders, fall outside Defra's revised approach to commercial fisheries management in EMSs. A variety of fishing gears are used in these fisheries (e.g. Hydraulic and non-hydraulic dredging and shore based activities (e.g. shellfish collection)) which may be applying pressure to site features, including abrasion of the seabed, visual disturbance, and habitat structure changes. Potential impacts need to be better understood and assessed with potential management introduced if required.

#### *Invasive Species*

The invasive Common cord-grass *Spartina anglica* occurs widely within this site, as well as native Small cord-grass *Spartina maritima* in certain locations, and the site is designated for H1320 *Spartina* swards.



There is a need to improve understanding of the dynamics of *S.anglica* on the site in order to determine if changes in the species' distribution adversely affect other species and habitats, including feeding and roosting areas of SPA bird species.

*Air Pollution: risk of atmospheric nitrogen deposition*

Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.

## Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar site

**Site area:** 4395.15 ha.

### Overview of site and its location

As for Blackwater Estuary (Mid-Essex Coast Phase 4) SPA above.

### Qualifying Features

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: water beetle *Paracymus aeneus*; damselfly *Lestes dryas*; flies *Aedes flavescens*, *Erioptera bivittata*, *Hybomitra expollicata*; spiders *Heliophanus auratus* and *Trichopterna cito*; beetles *Baris scolopacea*, *Philonthus punctus*, *Graptodytes bilineatus* and *Malachius vulneratus*; flies *Campsicemus magius*, *Myopites eximia*; moths *Idaea ochrata* and *Malacosoma castrensis*; spider *Euophrys*.

Supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.

Supports the following internationally important wildfowl assemblage:

- Dark-bellied brent goose, *Branta bernicla bernicla*; Grey plover, *Pluvialis squatarola*; Dunlin, *Calidris alpina alpina*; Black-tailed godwit, *Limosa limosa islandica*; European golden plover, *Pluvialis apricaria apricaria*; Common redshank, *Tringa totanus tetanus*.

### Conservation objectives

None available.

### Pressures and threats

As for Blackwater Estuary (Mid-Essex Coast Phase 4) SPA above.

## Colne Estuary (Mid-Essex Coast Phase 2) SPA

**Site area:** 2701.43 ha.

### Overview of site and its location

The Essex Estuaries SIP covers the Essex Estuaries SAC and five mid-Essex coast SPAs (Blackwater Estuary, Colne Estuary, Crouch and Roach Estuaries, Dengie and Foulness). The area is a typical, undeveloped, coastal plain estuarine system with associated open coast mudflats and sandbanks. Sub-tidal areas have a rich invertebrate fauna and there are extensive intertidal mudflats and sandflats. Four different saltmarsh features of European importance are represented as well as large areas of grazing marsh. The site is one of the most important areas for overwintering waterbirds in the UK and is of international importance for several breeding bird species.

### Qualifying Features

Annex I populations of the following species:

- During the breeding season: Little Tern, *Sterna albifrons*.
- Over winter: Avocet, *Recurvirostra avosetta*; Golden Plover, *Pluvialis apricaria*; Hen Harrier, *Circus cyaneus*.

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:

- Over winter: Dark-bellied Brent Goose, *Branta bernicla bernicla*; Redshank, *Tringa totanus*

The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

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

### Pressures and threats

#### *Coastal squeeze*

Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the SIP area are important for waterbirds and are also threatened by sea level rise because most are near or below mean high tide level, currently protected behind seawalls.

#### *Public Access/Disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities - including boating and watersports, walking, bait-digging, fishing and wildfowling - as well as low-flying aircraft. Some activities, such as powerboating, may produce physical disturbance to habitats. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive.

#### *Fisheries: Commercial marine and estuaries*

Commercial fishing activities categorised as Amber or Green under Defra's revised approach to commercial fisheries in EMSs are being assessed by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) to determine whether management is required. For activities categorised as Amber and Green these assessments should take account of any relevant in combination effects with other fishing activities. Shellfish dredging over subtidal habitats has been identified as an Amber activity and is considered a high priority for assessment and development of possible management for the site.

#### *Planning permission: General*

Several of the issues affecting the Essex Estuaries and the management of disturbance effects on the sites are related to each other, and addressing them is likely to require an improved overview of the

relative sensitivities of different habitats, species and locations to different types of development (perhaps summarised as sensitivity maps and matrices for the SIP area). Difficult issues include:

- (a) Assessing the cumulative effects of numerous, small and often 'non-standard' developments
- (b) Development outside the SPA/SAC boundaries can have negative impacts, particularly on the estuaries' birds
- (c) Assessing the indirect, 'knock-on' effects of proposals
- (d) Pressure to relax planning conditions on existing developments.

#### *Changes in species distributions*

Declines in the numbers of some of the waterbird species using the Essex Estuaries SIP area may be due to changes in their distributions or population levels at a national or continental scale, possibly linked to climate change. For example, milder winters may be allowing birds to overwinter closer to their northern breeding grounds, or changes on the breeding grounds may be reducing breeding success. When assessing SPA condition, distinguishing these types of large-scale effect from effects produced by changes within the site itself is important.

#### *Invasive species*

An increase in Pacific oyster *Crassostrea gigas* settlement and colonisation within the European Marine Site (EMS) may result in areas of foreshore being covered in such numbers as to make them difficult to access and utilise as feeding grounds for overwintering birds. The importance of Pacific oysters for the local shellfish industry is recognised, however we would not like to see an overall increase in the extent of foreshore across the EMS populated by Pacific oysters. Other non-native invasive species such as the American whelk tingle *Urosalpinx cinerea* and Slipper limpet *Crepidula fornicata* are known to occupy subtidal muddy habitats, potentially impacting native communities through competition for resources and predation.

#### *Fisheries: Recreational marine and estuarine*

Recreational bait digging may impact waterbirds by reducing prey availability and creating disturbance in intertidal feeding areas. It could also damage the intertidal mudflats and sandflats and associated sub-features and communities, such as eelgrass beds. The extent of the activity and potential impacts on site features are not currently well understood.

#### *Fisheries: Commercial marine and estuarine*

Bottom towed fishing gear (i.e. any fishing instrument designed to take sea fisheries resources from the seabed) has been categorised as a 'Red' for the interest features listed, specifically the seagrass beds *Zostera* spp, a sub-feature of the SAC, as part of Defra's revised approach to commercial fisheries management in European Marine Sites (EMS). Appropriate management measures will be implemented and enforced by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) who have put in place the 'Bottom Towed Fishing Gear Byelaw' within the SAC to prohibit the above fishing gear being used over the majority of known seagrass beds.

#### *Fisheries: Commercial marine and estuarine*

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#### *Invasive Species*

The invasive Common cord-grass *Spartina anglica* occurs widely within this site, as well as native Small cord-grass *Spartina maritima* in certain locations, and the site is designated for H1320 *Spartina* swards. There is a need to improve understanding of the dynamics of *S.anglica* on the site in order to determine if changes in the species' distribution adversely affect other species and habitats, including feeding and roosting areas of SPA bird species.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in

the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.

## Colne Estuary (Mid-Essex Coast Phase 2) Ramsar site

**Site area:** 2701.43 ha.

### Overview of site and its location

As for Colne Estuary (Mid-Essex Coast Phase 2) SPA above.

### Qualifying Features

Ramsar criterion 1: The site is important due to the extent and diversity of saltmarsh present.

Ramsar criterion 2: The site supports 12 species of nationally scarce plants and at least 38 British Red Data Book invertebrate species.

Ramsar criterion 3: This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.

Ramsar criterion 5: Assemblages of international importance:

Species with peak counts in winter: 32,041 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6: Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation):

- Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*; Common redshank, *Tringa totanus tetanus*.

Species/populations identified subsequent to designation for possible future consideration under criterion 6:

- Species with peak counts in winter: Black-tailed godwit , *Limosa limosa islandica*

### Conservation objectives

None available.

### Pressures and threats

As for Colne Estuary (Mid-Essex Coast Phase 2) SPA above.

## Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA

**Site area:** 1735.58 ha.

### Overview of site and its location

The Essex Estuaries SIP covers the Essex Estuaries SAC and five mid-Essex coast SPAs (Blackwater Estuary, Colne Estuary, Crouch and Roach Estuaries, Dengie and Foulness). The area is a typical, undeveloped, coastal plain estuarine system with associated open coast mudflats and sandbanks. Sub-tidal areas have a rich invertebrate fauna and there are extensive intertidal mudflats and sandflats. Four different saltmarsh features of European importance are represented as well as large areas of grazing marsh. The site is one of the most important areas for overwintering waterbirds in the UK and is of international importance for several breeding bird species.

### Qualifying Features

Site regularly supports over winter:

- *Branta bernicla bernicla*, Dark-bellied brent goose; *Circus cyaneus*, Hen harrier.

## Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

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

## Pressures and threats

### *Coastal squeeze*

Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the SIP area are important for waterbirds and are also threatened by sea level rise because most are near or below mean high tide level, currently protected behind seawalls.

### *Public Access/Disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities - including boating and watersports, walking, bait-digging, fishing and wildfowling - as well as low-flying aircraft. Some activities, such as powerboating, may produce physical disturbance to habitats. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive.

### *Fisheries: Commercial marine and estuaries*

Commercial fishing activities categorised as Amber or Green under Defra's revised approach to commercial fisheries in EMSs are being assessed by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) to determine whether management is required. For activities categorised as Amber and Green these assessments should take account of any relevant in combination effects with other fishing activities. Shellfish dredging over subtidal habitats has been identified as an Amber activity and is considered a high priority for assessment and development of possible management for the site.

### *Planning permission: General*

Several of the issues affecting the Essex Estuaries and the management of disturbance effects on the sites are related to each other, and addressing them is likely to require an improved overview of the relative sensitivities of different habitats, species and locations to different types of development (perhaps summarised as sensitivity maps and matrices for the SIP area). Difficult issues include:

- (a) Assessing the cumulative effects of numerous, small and often 'non-standard' developments
- (b) Development outside the SPA/SAC boundaries can have negative impacts, particularly on the estuaries' birds
- (c) Assessing the indirect, 'knock-on' effects of proposals
- (d) Pressure to relax planning conditions on existing developments.

### *Changes in species distributions*

Declines in the numbers of some of the waterbird species using the Essex Estuaries SIP area may be due to changes in their distributions or population levels at a national or continental scale, possibly linked to climate change. For example, milder winters may be allowing birds to overwinter closer to their northern breeding grounds, or changes on the breeding grounds may be reducing breeding success. When assessing SPA condition, distinguishing these types of large-scale effect from effects produced by changes within the site itself is important.

#### *Invasive species*

An increase in Pacific oyster *Crassostrea gigas* settlement and colonisation within the European Marine Site (EMS) may result in areas of foreshore being covered in such numbers as to make them difficult to access and utilise as feeding grounds for overwintering birds. The importance of Pacific oysters for the local shellfish industry is recognised, however we would not like to see an overall increase in the extent of foreshore across the EMS populated by Pacific oysters. Other non-native invasive species such as the American whelk tingle *Urosalpinx cinerea* and Slipper limpet *Crepidula fornicata* are known to occupy subtidal muddy habitats, potentially impacting native communities through competition for resources and predation.

#### *Fisheries: Recreational marine and estuarine*

Recreational bait digging may impact waterbirds by reducing prey availability and creating disturbance in intertidal feeding areas. It could also damage the intertidal mudflats and sandflats and associated sub-features and communities, such as eelgrass beds. The extent of the activity and potential impacts on site features are not currently well understood.

#### *Fisheries: Commercial marine and estuarine*

Bottom towed fishing gear (i.e. any fishing instrument designed to take sea fisheries resources from the seabed) has been categorised as a 'Red' for the interest features listed, specifically the seagrass beds *Zostera* spp, a sub-feature of the SAC, as part of Defra's revised approach to commercial fisheries management in European Marine Sites (EMS). Appropriate management measures will be implemented and enforced by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) who have put in place the 'Bottom Towed Fishing Gear Byelaw' within the SAC to prohibit the above fishing gear being used over the majority of known seagrass beds.

#### *Fisheries: Commercial marine and estuarine*

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#### *Invasive Species*

The invasive Common cord-grass *Spartina anglica* occurs widely within this site, as well as native Small cord-grass *Spartina maritima* in certain locations, and the site is designated for H1320 *Spartina* swards. There is a need to improve understanding of the dynamics of *S.anglica* on the site in order to determine if changes in the species' distribution adversely affect other species and habitats, including feeding and roosting areas of SPA bird species.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.

## Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) Ramsar site

**Site area:** 1735.58 ha.

### Overview of site and its location

As for Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA above.

### Qualifying Features

Supports an appreciable assemblage of rare, vulnerable or endangered including 13 nationally scarce plant species:

- slender hare's ear, *Bupleurum tenuissimum*; divided sedge, *Carex divisa*; sea barley, *Hordeum marinum*; golden-samphire, *Inula crithmoides*; laxflowered sea-lavender, *Limonium humile*; curved hard-grass, *Parapholis incurva*; Borrer's saltmarsh grass, *Puccinellia fasciculata*; stiff saltmarsh grass, *Puccinellia rupestris*; spiral tasselweed, *Ruppia cirrhosa*; one-flowered glasswort, *Salicornia pusilla*; small cord-grass, *Spartina maritime*; shrubby seablite, *Suaeda vera*; sea clover, *Trifolium squamosum*.

Several important invertebrate species also present including

- scarce emerald damselfly, *Lestes dryas*; the shorefly, *Parydroptera discomyzina*; the rare soldier fly, *Stratiomys singularior*; the large horsefly, *Hybomitra expollicata*; beetles *Graptodytes bilineatus*, *Malachius vulneratus*; the ground lackey moth, *Malacosoma castrensis* and *Eucosoma catoprana*.

Also supports the following internationally important waterbird assemblage:

- Dark-bellied brent goose, *Branta bernicla* *Bernicla*.

### Conservation objectives

None available.

### Pressures and threats

As for Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA above.

## Essex Estuaries SAC

**Site area:** 46140.82 ha.

### Overview of site and its location

The Essex Estuaries SIP covers the Essex Estuaries SAC and five mid-Essex coast SPAs (Blackwater Estuary, Colne Estuary, Crouch and Roach Estuaries, Dengie and Foulness). The area is a typical, undeveloped, coastal plain estuarine system with associated open coast mudflats and sandbanks. Sub-tidal areas have a rich invertebrate fauna and there are extensive intertidal mudflats and sandflats. Four different saltmarsh features of European importance are represented as well as large areas of grazing marsh. The site is one of the most important areas for overwintering waterbirds in the UK and is of international importance for several breeding bird species.

### Qualifying Features

Annex 1 habitats that are a primary reason for selection of this site:

- Estuaries.
- Mudflats and sandflats not covered by seawater at low tide.
- *Salicornia* and other animals colonising mud and sand.
- *Spartina* swards (*Spartinion maritimae*).
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*).

- Mediterranean and thermo-Atlantic halophilous scrubs.

Annex 1 habitats present as a qualifying feature:

- Sandbanks which are slightly covered by seawater all the time.

### Conservation objectives

With regard to the SAC and the natural habitats and/or species for which the site has been designated, and subject to natural change; ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

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

### Pressures and threats

#### *Coastal squeeze*

Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the SIP area are important for waterbirds and are also threatened by sea level rise because most are near or below mean high tide level, currently protected behind seawalls.

#### *Public Access/Disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities - including boating and watersports, walking, bait-digging, fishing and wildfowling - as well as low-flying aircraft. Some activities, such as powerboating, may produce physical disturbance to habitats. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive.

#### *Fisheries: Commercial marine and estuaries*

Commercial fishing activities categorised as Amber or Green under Defra's revised approach to commercial fisheries in EMSs are being assessed by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) to determine whether management is required. For activities categorised as Amber and Green these assessments should take account of any relevant in combination effects with other fishing activities. Shellfish dredging over subtidal habitats has been identified as an Amber activity and is considered a high priority for assessment and development of possible management for the site.

#### *Planning permission: General*

Several of the issues affecting the Essex Estuaries and the management of disturbance effects on the sites are related to each other, and addressing them is likely to require an improved overview of the relative sensitivities of different habitats, species and locations to different types of development (perhaps summarised as sensitivity maps and matrices for the SIP area). Difficult issues include:

- (a) Assessing the cumulative effects of numerous, small and often 'non-standard' developments
- (b) Development outside the SPA/SAC boundaries can have negative impacts, particularly on the estuaries' birds
- (c) Assessing the indirect, 'knock-on' effects of proposals
- (d) Pressure to relax planning conditions on existing developments.

#### *Changes in species distributions*

Declines in the numbers of some of the waterbird species using the Essex Estuaries SIP area may be due to changes in their distributions or population levels at a national or continental scale, possibly linked to



climate change. For example, milder winters may be allowing birds to overwinter closer to their northern breeding grounds, or changes on the breeding grounds may be reducing breeding success. When assessing SPA condition, distinguishing these types of large-scale effect from effects produced by changes within the site itself is important.

#### *Invasive species*

An increase in Pacific oyster *Crassostrea gigas* settlement and colonisation within the European Marine Site (EMS) may result in areas of foreshore being covered in such numbers as to make them difficult to access and utilise as feeding grounds for overwintering birds. The importance of Pacific oysters for the local shellfish industry is recognised, however we would not like to see an overall increase in the extent of foreshore across the EMS populated by Pacific oysters. Other non-native invasive species such as the American whelk tingle *Urosalpinx cinerea* and Slipper limpet *Crepidula fornicata* are known to occupy subtidal muddy habitats, potentially impacting native communities through competition for resources and predation.

#### *Fisheries: Recreational marine and estuarine*

Recreational bait digging may impact waterbirds by reducing prey availability and creating disturbance in intertidal feeding areas. It could also damage the intertidal mudflats and sandflats and associated sub-features and communities, such as eelgrass beds. The extent of the activity and potential impacts on site features are not currently well understood.

#### *Fisheries: Commercial marine and estuarine*

Bottom towed fishing gear (i.e. any fishing instrument designed to take sea fisheries resources from the seabed) has been categorised as a 'Red' for the interest features listed, specifically the seagrass beds *Zostera* spp, a sub-feature of the SAC, as part of Defra's revised approach to commercial fisheries management in European Marine Sites (EMS). Appropriate management measures will be implemented and enforced by Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) who have put in place the 'Bottom Towed Fishing Gear Byelaw' within the SAC to prohibit the above fishing gear being used over the majority of known seagrass beds.

#### *Fisheries: Commercial marine and estuarine*

Marine fisheries carried out under private rights, or under management defined in Several or Hybrid Orders, fall outside Defra's revised approach to commercial fisheries management in EMSs. A variety of fishing gears are used in these fisheries (e.g. Hydraulic and non hydraulic dredging and shore based activities (e.g. shellfish collection)) which may be applying pressure to site features, including abrasion of the seabed, visual disturbance, and habitat structure changes. Potential impacts need to be better understood and assessed with potential management introduced if required.

#### *Invasive Species*

The invasive Common cord-grass *Spartina anglica* occurs widely within this site, as well as native Small cord-grass *Spartina maritima* in certain locations, and the site is designated for H1320 *Spartina* swards. There is a need to improve understanding of the dynamics of *S.anglica* on the site in order to determine if changes in the species' distribution adversely affect other species and habitats, including feeding and roosting areas of SPA bird species.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.

## Hamford Water SPA

**Site area:** 2187.21 ha.

### Overview of site and its location

Hamford Water is a large, shallow estuarine basin comprising tidal creeks and islands, intertidal mud and sand flats, and saltmarshes. The flats are a small, locally sheltered area of medium to low level clay and silt flats. In places, particularly on the seaward side, the London Clay bedrock is exposed, and this area with soft recent muds provides contrasting substrates for inter-tidal algae and invertebrates. The saltmarsh fringe is of varying width outside the sea wall around most of Hamford Water, and the islands, notably Horsey, Skippers, Hedge-End and Garnham's, have substantial saltmarsh on their margins or, locally, within their breached sea walls. Above the saltmarsh there is unimproved and improved grassland (including grazing marsh), scrub, woodland, hedges, ditches, ponds and reedbeds. The site is important for several internationally important populations of overwintering and breeding waterfowl (SPA) as well as being the most important area for Fisher's estuarine moth *Gortyna borelii lunata* in the United Kingdom (cSAC)

### Qualifying Features

Annex I species present as a qualifying feature:

During the breeding season:

- Little Tern, *Sterna albifrons*.

Over winter:

- Avocet, *Recurvirostra avosetta*; Golden Plover, *Pluvialis apricaria*; Ruff, *Philomachus pugnax*.

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:

- On passage: Ringed Plover, *Charadrius hiaticula*
- Over winter: Black-tailed Godwit, *Limosa limosa islandica*; Dark-bellied Brent Goose *Branta bernicla bernicla*; Grey Plover, *Pluvialis squatarola*; Ringed Plover, *Charadrius hiaticula*; Teal, *Anas crecca*; Common shelduck, *Tadorna tadorna*; Common redshank, *Tringa tetanus*.

The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl.

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

### Pressures and threats

#### *Coastal Squeeze*

Areas of intertidal saltmarsh, mudflats, sand and shingle used by overwintering and breeding birds for feeding, roosting and/or nesting are under threat from coastal squeeze. The consequences of climate change, including sea level rise and an increased frequency in coastal storms and tidal surges, are likely

to be contributing factors in coastal squeeze. Tectonic subsidence along the east coast of England and hard sea defences are also likely to exacerbate the issue.

#### *Inappropriate scrub control*

Scrub encroachment results in a loss of habitat for Fisher's Estuarine Moth, as the moth's larval foodplant (Hog's Fennel) is a species of open grassland. Although there are plans in place for scrub reduction/control in several areas, more action is likely to be needed to get/keep it under control.

#### *Changes in species distributions*

The decline in numbers of some species of bird in Hamford Water may be related to international changes in distribution and/or population levels related to climate change. This includes climatic variables and habitat quality issues at breeding grounds outside of the UK

#### *Public Access/Disturbance*

There is some unauthorised public access on foot, from boats and by quad bike/motorbike to sensitive localised areas in Hamford Water.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

Nitrogen deposition exceeds the site-relevant critical load for ecosystem protection and hence there is a risk of harmful effects, but the sensitive features are currently considered to be in favourable condition on the site. This requires further investigation.

#### *Fisheries: Commercial marine and estuarine*

Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites require assessment and (where appropriate) management. This assessment will be undertaken by Kent and Essex Inshore Fisheries Conservation Authority (IFCA). For activities categorised as 'green', these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site.

## Hamford Water Ramsar site

**Site area:** 2187.21 ha.

### **Overview of site and its location**

As for Hamford Water SPA above.

### **Qualifying Features**

Species/populations with peak counts in spring/autumn:

- Ringed plover, *Charadrius hiaticula*; Common redshank, *Tringa totanus tetanus*.

Species/populations with peak counts in winter:

- Dark-bellied brent goose, *Branta bernicla bernicla*; Black-tailed godwit, *Limosa limosa islandica*.

Species/populations identified subsequent to designation for possible future consideration under criterion 6:

- Grey plover, *Pluvialis squatarola*

### **Conservation objectives**

None available.

### **Pressures and threats**

As for Hamford Water SPA above.

## Medway Estuary and Marshes SPA

**Site area:** 4684.36 ha.

### Overview of site and its location

The Greater Thames Complex consists of the Thames Estuary and Marshes SPA, the Medway Estuary SPA, the Swale SPA and Benfleet & Southend Marshes SPA. The Medway Estuary feeds into and lies on the south side of the outer Thames Estuary in Kent, south-east England. It forms a single tidal system with the Swale and joins the Thames Estuary between the Isle of Grain and the Isle of Sheppey. The Swale is an estuarine area that separates the Isle of Sheppey from the Kent mainland and joins the Medway to the west. Benfleet and Southend Marshes is an estuarine area on the Essex side of the Thames Estuary. These four sites contain a wide diversity of coastal habitats, such as grazing marsh, saltmarsh and mud/sandflat and eelgrass beds that support important numbers of waterbirds throughout the year. Wintering birds that use these estuaries include grebes, geese, ducks and waders whilst in summer breeding birds can be found, such as waders and terns. The area is also important for spring and autumn migration periods.

### Qualifying Features

Supports the following Waterbird assemblage/breeding bird assemblage:

- *Branta bernicla bernicla*, Dark-bellied brent goose (Non-breeding); *Tadorna tadorna*, Common shelduck (Non-breeding); *Anas acuta*, Northern pintail (Non-breeding); *Recurvirostra avosetta*, Pied avocet (Breeding); *Recurvirostra avosetta*, Pied avocet (Non-breeding); *Charadrius hiaticula*, Ringed plover (Non-breeding); *Pluvialis squatarola*, Grey plover (Non-breeding); *Calidris canutus*, Red knot (Non-breeding); *Calidris alpina alpina*, Dunlin (Non-breeding); *Tringa tetanus*, Common redshank (Non-breeding); *Sterna albifrons*, Little tern (Breeding).

Additional Qualifying Features Identified by the 2001 UK SPA Review:

- *Limosa limosa islandica*, Black-tailed godwit (Non-breeding).

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

### Pressures and threats

#### *Coastal squeeze*

Coastal defences exist along much of the coastline here. Sea level rise is also occurring. It is therefore certain that if circumstances do not change, much of the supporting habitats of the SPA birds will be lost/degraded through processes such as: coastal squeeze; sedimentation rates' inability to keep pace with sea level rise; and reduced exposure (the extent and duration) of mudflats and sandflats.

#### *Public access/disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities, including: boating and watersports; walking; bait-digging; fishing, and wildfowling. Some activities such as powerboating, may produce physical disturbance to habitats. Public access, (especially dog walking and recreational boating) was identified as a medium risk during the 2009 EMS risk review project and this activity is still occurring. Moderate levels of disturbance in less sensitive

locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive. There is inadequate information to provide appropriate management.

#### *Invasive species*

Non-native invasive species such as sea squirt and Pacific oyster are spreading along the Kent coast and could begin to impact on the Swale. Sea squirt has been found in the Medway, and Pacific oysters are regarded as increasing in the Essex-Southend area. These species threaten habitats due to their ability to smother substrate and other sessile organisms. There is no good understanding of the overall distribution of these species in this site. Assessment is needed in key areas of ports and marinas, where introductions tend to first occur.

#### *Changes in species distributions*

There is a decline in population size for some of the bird species on some of the SPAs<sup>22</sup>. These are likely to be influenced by a number of factors which may vary across the four SPAs. Some of these influences are site-based as described in other parts of this Plan and some relate to wider, broad-scale changes such as wintering species distributions and effects from breeding grounds outside the UK. A greater understanding of the relative importance of site-based and wider influences is required in order to identify the potential for further actions that might halt declines, restore populations or identify scenarios where it is thought unlikely that site-based measures will reverse population declines.

#### *Fisheries: Commercial marine and estuarine*

The extent and impacts of fisheries on private grounds, particularly in the Swale Estuary, needs to be better understood. There are particular concerns regarding the dredging of shellfish within the SPAs which are a food source for the protected birds.

#### *Invasive Species*

Freshwater non-native invasive species such as pennywort, crassula, parrot's feather etc. can engulf ditches, leading to loss of habitat for diving ducks. Although there are some mechanisms in place to ensure ditch management, more baseline information is needed, particularly on those species for which ditch management is not the solution.

#### *Invasive Species*

*Spartina anglica* may be increasing at the expense of other saltmarsh habitats with adverse implications for SPA bird roost areas in Benfleet & Southend Marshes.

#### *Vehicles: illicit*

The illicit use of motor vehicles (often bikes) occurs across the area. This can cause disturbance to SPA birds. This activity was identified as a medium risk during the 2009 EMS risk review project and is still occurring. Whilst various mechanisms are in place to prevent the use of vehicles they are clearly not entirely effective.

#### *Fisheries: Commercial marine and estuarine*

Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites require assessment and (where appropriate) management. This assessment will be undertaken by Kent & Essex IFCA. For activities categorised as 'green', these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

Nitrogen deposition exceeds site-relevant critical loads.

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<sup>22</sup> Cook A.S.C.P., Barimore C., Holt C.A., Read W.J. & Austin G.E. 2013. Wetland Bird Survey Alerts 2009/2010: Changes in numbers of wintering waterbirds in the Constituent Countries of the United Kingdom, Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs). BTO Research Report 641. BTO, Thetford.

## Medway Estuary and Marshes Ramsar site

**Site area:** 4684.36 ha.

### Overview of site and its location

As for Medway Estuary and Marshes SPA above.

### Qualifying Features

Site holds several nationally scarce plants, including

- sea barley *Hordeum marinum*; curved hard-grass, *Parapholis incurve*; annual beard-grass, *Polypogon monspeliensis*; Borrer's saltmarsh-grass *Puccinellia fasciculata*; slender hare`s-ear *Bupleurum tenuissimum*; sea clover *Trifolium squamosum*; saltmarsh goose-foot *Chenopodium chenopodioides*; golden samphire *Inula crithmoides*; perennial glasswort *Sarcocornia perennis*; and one-flowered glasswort *Salicornia pusilla*.

A total of at least twelve British Red Data Book species of wetland invertebrates have been recorded on the site including

- ground beetle *Polistichus connexus*; a fly *Cephalops perspicuus*; a dancefly *Poecilobothrus ducalis*; a fly *Anagnota collini*; a weevil *Baris scolopacea*; a water beetle *Berosus spinosus*; a beetle *Malachius vulneratus*; a rove beetle *Philonthus punctus*; the ground lackey moth *Malacosoma castrensis*; a horsefly *Atylotus latistriatus*; a fly *Campsicnemus magius*; a soldier beetle; *Cantharis fusca*; a crane fly *Limonia danica*.

A significant number of non-wetland British Red Data Book species also occur.

The Site also supports the following internationally important waterbird assemblage:

- Grey plover, *Pluvialis squatarola*; Common redshank, *Tringa totanus totanus*; Dark-bellied brent goose, *Branta bernicla bernicla*; Common shelduck, *Tadorna tadorna*; Northern pintail, *Anas acuta*; Ringed plover, *Charadrius hiaticula*; Red knot *Calidris canutus islandica*; Dunlin *Calidris alpina alpina*

Species/populations identified subsequent to designation for possible future consideration under criterion 6:

- Black-tailed godwit, *Limosa limosa islandica*.

### Conservation objectives

None available.

### Pressures and threats

As for Medway Estuary and Marshes SPA above.

## Stour and Orwell Estuaries SPA

**Site area:** 3676.92 ha.

### Overview of site and its location

The Stour and Orwell estuaries straddle the eastern part of the Essex/Suffolk border. The estuaries include extensive mud-flats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. The site also includes areas of low-lying grazing marsh at Shotley Marshes on the south side of the Orwell and at Cattawade Marshes at the head of the Stour. In summer, the site supports important numbers of breeding Avocet *Recurvirostra avosetta*, while in winter it holds major concentrations of waterbirds, especially geese, ducks and waders.

### Qualifying Features

Annex I species:

- Over winter: Hen Harrier, *Circus cyaneus*

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:

- Over winter: Black-tailed Godwit, *Limosa limosa islandica*; Dunlin, *Calidris alpina alpina*; Grey Plover, *Pluvialis squatarola*; Pintail, *Anas acuta*; Redshank, *Tringa tetanus*; Ringed Plover, *Charadrius hiaticula*; Shelduck, *Tadorna tadorna*; Turnstone, *Arenaria interpres*

The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl including:

- Cormorant, *Phalacrocorax carbo*; Pintail, *Anas acuta*; Ringed Plover, *Charadrius hiaticula*; Grey Plover, *Pluvialis squatarola*; Dunlin, *Calidris alpina alpina*; Black-tailed Godwit, *Limosa limosa islandica*; Redshank, *Tringa tetanus*; Shelduck, *Tadorna tadorna*; Great Crested Grebe, *Podiceps cristatus*; Curlew, *Numenius arquata*; Dark-bellied Brent Goose, *Branta bernicla bernicla*; Wigeon, *Anas penelope*; Goldeneye, *Bucephala clangula*; Oystercatcher, *Haematopus ostralegus*; Lapwing, *Vanellus vanellus*; Knot, *Calidris canutus*; Turnstone, *Arenaria interpres*.

### Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

### Pressures and threats

#### *Coastal squeeze*

Coastal defences exist along much of the Orwell coastline. Sea level rise is also occurring. It is therefore certain, that if circumstances do not change, much of the supporting habitats of the SPA birds will be lost/degraded through processes such as coastal squeeze; sedimentation rates inability to keep pace with sea level rise; and reduced exposure (extent and duration) of mudflats/sandflats. Seawalls afford little scope for natural adaptation to sea level rise.

#### *Public access/disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities, including: boating and watersports; walking; bait-digging; fishing; wildfowling, and military overflight training. Some activities, such as powerboating, may produce physical disturbance to habitats. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. A better understanding will be required of: which species and habitats are most susceptible; which types of activity are most disturbing; and which locations and times of year are most sensitive in order to manage change, with intervention as necessary in order to minimise the risks of disturbance impacts.

#### *Changes in species distributions*

Numbers of some species of birds are declining on the Stour and Orwell Estuaries. This may be related to international changes in distribution and/or population levels related to climate change. This includes climatic variables and habitat quality issues at breeding grounds outside of the UK.

#### *Invasive species*

The growth in *Spartina anglica* may be impacting on *Spartina maritima* (part of the supporting habitat feature), adversely impacting on bird roosting and feeding areas of saltmarsh and mudflat.

### *Planning Permission: general*

Several of the issues affecting the Stour and Orwell Estuaries and the management of disturbance effects on the sites are related to each other. Addressing them is likely to require an improved overview of the relative sensitivities of different habitats, species and locations to different types of development (perhaps summarised as sensitivity maps and matrices for the SIP area). Difficult issues include; a) Assessing the cumulative effects of numerous, small and often 'non-standard' developments. b) Development outside the SPA boundary can have negative impacts, particularly on the estuaries' birds. c) Assessing the indirect, 'knock-on' effects of proposals. d) Pressure to relax planning conditions on existing developments.

### *Air Pollution: impact of atmospheric nitrogen deposition*

Nitrogen deposition exceeds the site-relevant critical load for ecosystem protection and hence there is a risk of harmful effects, but the sensitive features are currently considered to be in favourable condition on the site. This requires further investigation.

### *Inappropriate coastal management*

Freshwater habitat areas behind failing seawall walls could be inundated by seawater which would remove this habitat from the site

### *Fisheries: Commercial marine and estuarine*

Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites (EMS) require assessment and (where appropriate) management. This assessment will be undertaken by Kent & Essex IFCA and Eastern IFCA. For activities categorised as 'green', these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site.

## Stour and Orwell Estuaries Ramsar site

**Site area:** 3676.92 ha.

### **Overview of site and its location**

As for Stour and Orwell Estuaries SPA above.

### **Qualifying Features**

Species/populations with peak counts in spring/autumn:

- Ringed plover, *Charadrius hiaticula*; Common redshank, *Tringa totanus tetanus*.

Species/populations with peak counts in winter:

- Dark-bellied brent goose, *Branta bernicla bernicla*; Black-tailed godwit, *Limosa limosa islandica*

Species/populations identified subsequent to designation for possible future consideration under criterion 6:

- Grey plover, *Pluvialis squatarola*

### **Conservation objectives**

None available.

### **Pressures and threats**

As for Stour and Orwell Estuaries SPA above.



# Thames Estuary and Marshes SPA

**Site area:** 4838.94 ha.

## Overview of site and its location

The Greater Thames Complex consists of the Thames Estuary and Marshes SPA, the Medway Estuary SPA, the Swale SPA and Benfleet & Southend Marshes SPA. The Medway Estuary feeds into and lies on the south side of the outer Thames Estuary in Kent, south-east England. It forms a single tidal system with the Swale and joins the Thames Estuary between the Isle of Grain and the Isle of Sheppey. The Swale is an estuarine area that separates the Isle of Sheppey from the Kent mainland and joins the Medway to the west. Benfleet and Southend Marshes is an estuarine area on the Essex side of the Thames Estuary. These four sites contain a wide diversity of coastal habitats, such as grazing marsh, saltmarsh and mud/sandflat and eelgrass beds that support important numbers of waterbirds throughout the year. Wintering birds that use these estuaries include grebes, geese, ducks and waders whilst in summer breeding birds can be found, such as waders and terns. The area is also important for spring and autumn migration periods.

## Qualifying Features

Supports the following internationally important waterbird assemblage:

- *Circus cyaneus*, Hen harrier (Non-breeding); *Recurvirostra avosetta*, Pied avocet (Non-breeding); *Charadrius hiaticula*, Ringed plover (Non-breeding); *Pluvialis squatarola*, Grey plover (Non-breeding); *Calidris canutus*, Red knot (Non-breeding); *Calidris alpina alpina*, Dunlin (Non-breeding); *Limosa limosa islandica*, Black-tailed godwit (Non-breeding); *Tringa tetanus*, Common redshank (Non-breeding).

## Conservation objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified, and subject to natural change;

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

## Pressures and threats

### *Coastal squeeze*

Coastal defences exist along much of the coastline here. Sea level rise is also occurring. It is therefore certain that if circumstances do not change, much of the supporting habitats of the SPA birds will be lost/degraded through processes such as: coastal squeeze; sedimentation rates' inability to keep pace with sea level rise; and reduced exposure (the extent and duration) of mudflats and sandflats.

### *Public access/disturbance*

Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities, including: boating and watersports; walking; bait-digging; fishing, and wildfowling. Some activities such as powerboating, may produce physical disturbance to habitats. Public access, (especially dog walking and recreational boating) was identified as a medium risk during the 2009 EMS risk review project and this activity is still occurring. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats

are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive. There is inadequate information to provide appropriate management.

#### *Invasive species*

Non-native invasive species such as sea squirt and Pacific oyster are spreading along the Kent coast and could begin to impact on the Swale. Sea squirt has been found in the Medway, and Pacific oysters are regarded as increasing in the Essex-Southend area. These species threaten habitats due to their ability to smother substrate and other sessile organisms. There is no good understanding of the overall distribution of these species in this site. Assessment is needed in key areas of ports and marinas, where introductions tend to first occur.

#### *Changes in species distributions*

There is a decline in population size for some of the bird species on some of the SPAs (Cook et al. 2013\*). These are likely to be influenced by a number of factors which may vary across the four SPAs. Some of these influences are site-based as described in other parts of this Plan and some relate to wider, broad-scale changes such as wintering species distributions and effects from breeding grounds outside the UK. A greater understanding of the relative importance of site-based and wider influences is required in order to identify the potential for further actions that might halt declines, restore populations or identify scenarios where it is thought unlikely that site-based measures will reverse population declines.

\*Cook A.S.C.P., Barimore C., Holt C.A., Read W.J. & Austin G.E. 2013. Wetland Bird Survey Alerts 2009/2010: Changes in numbers of wintering waterbirds in the Constituent Countries of the United Kingdom, Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs). BTO Research Report 641. BTO, Thetford.

#### *Fisheries: Commercial marine and estuarine*

The extent and impacts of fisheries on private grounds, particularly in the Swale Estuary, needs to be better understood. There are particular concerns regarding the dredging of shellfish within the SPAs which are a food source for the protected birds.

#### *Invasive Species*

Freshwater non-native invasive species such as pennywort, crassula, parrot's feather etc. can engulf ditches, leading to loss of habitat for diving ducks. Although there are some mechanisms in place to ensure ditch management, more baseline information is needed, particularly on those species for which ditch management is not the solution.

#### *Invasive Species*

*Spartina anglica* may be increasing at the expense of other saltmarsh habitats with adverse implications for SPA bird roost areas in Benfleet & Southend Marshes.

#### *Vehicles: illicit*

The illicit use of motor vehicles (often bikes) occurs across the area. This can cause disturbance to SPA birds. This activity was identified as a medium risk during the 2009 EMS risk review project and is still occurring. Whilst various mechanisms are in place to prevent the use of vehicles they are clearly not entirely effective.

#### *Fisheries: Commercial marine and estuarine*

Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites require assessment and (where appropriate) management. This assessment will be undertaken by Kent & Essex IFCA. For activities categorised as 'green', these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site.

#### *Air Pollution: risk of atmospheric nitrogen deposition*

Nitrogen deposition exceeds site-relevant critical loads.

## Thames Estuary and Marshes Ramsar site

**Site area:** 4,838.94 ha.

### Overview of site and its location

As for Thames Estuary and Marshes SPA above.

### Qualifying Features

The site supports one endangered plant species and at least 14 nationally scarce plants of wetland habitats.

The site also supports more than 20 British Red Data Book invertebrates. Assemblages of international importance 45118 waterfowl including the following species:

- Ringed plover, *Charadrius hiaticula*; Black-tailed godwit, *Limosa limosa islandica*; Grey plover, *Pluvialis squatarola*; Red knot, *Calidris canutus islandica*; Dunlin, *Calidris alpina alpina*; Common redshank, *Tringa totanus tetanus*.

### Conservation objectives

None available.

### Pressures and threats

As for Thames Estuary and Marshes SPA above.

# Appendix 2: Review of other plans and projects

## Regional Level Plans

<b>The South East Marine Plan</b>	
Plan Owner/ Competent Authority:	UK Government – Marine Management Organisation
Related work HRA/AA:	AECOM 2016 - <i>Pre-Screening Report for the North-East, North-West, South-East and South-West Marine Plans Habitats Regulations Assessments - MMO Project No: 19768 Project</i>
Notes on project:	The plan specifies that “ <i>Marine planning makes sure the right activities take place in the right place and in the right way within the marine environment, placing sustainable development at the centre of all decisions. The south east marine plan area covers approximately 1,400 kilometres of coastline, stretching from Felixstowe to near Dover, taking in over 3,900 square kilometres of sea. It borders the south and east marine plan areas as well as the French marine area. The south east marine plan area is important for the ports and shipping sector, which brings over £2.5 billion to the national economy, containing 30% of England’s ports including Felixstowe and Dover. The area is also important to marine conservation, with six special areas of conservation and 14 special protection areas (SPA), including one of two SPAs which are entirely marine. The plan area also hosts a number of recreational facilities including, 17 blue flag beaches and over 140 recognised Royal Yachting Association routes. Local, specialist and industry knowledge is critical to developing relevant and robust marine plans. To ensure stakeholders have the opportunity to influence the marine plans, and that the marine planning process is transparent we have published a Statement of Public Participation (SPP). The SPP includes a timetable of engagement. This document represents the first outputs of the planning process.</i> ”
<b>HRA Conclusions of relevance to Basildon Local Plan HRA</b>	
<p>The pre-screening identified the potential for wind farms to result in bird strike to affect several of the European sites considered as part of the HRA of the Basildon Local Plan. Nevertheless, no such impacts will occur as part of the Basildon Local Plan HRA and therefore no in-combination effects between the Plans is predicted as result of bird mortality.</p> <p>No impacts relating to loss of offsite habitat on the Thames Estuary and Marshes SPA and Ramsar, or recreational impacts to any European Sites have been identified and therefore no in-combination effects relating to these factors is predicted.</p>	

## County or district level plans providing for development

<b>Brentwood Draft Local Plan Preferred Site Allocations January 2018</b>	
Plan Owner/ Competent Authority:	Brentwood Borough Council
Related work HRA/AA:	The Council is currently preparing a new Local Plan for the Borough which, once adopted, will supersede saved policies in the current Replacement Local Plan (2005). The Brentwood Draft Local Plan Preferred Site Allocations is currently available for public comment and is supported by - <i>Habitats Regulations Assessment of Brentwood District Council Draft Local Plan: Preferred Site Allocations - Regulation 18 Consultation (January 2018)</i>
Notes on Plan documents:	<p>Brentwood Local Plan 2015-2030 Preferred Options published in July 2013.</p> <p>Development provided for includes 3,500 new dwellings during 2015-2030.</p>

## Brentwood Draft Local Plan Preferred Site Allocations January 2018

### HRA Conclusions of relevance to Basildon Local Plan HRA

Habitats Regulations Assessment of Brentwood District Council Draft Local Plan: Preferred Site Allocations - Regulation 18 Consultation (January 2018) concluded:

To ensure that residential site allocations do not affect the integrity of a European site in combination, it was recommended that the Council adhere to the interim strategic guidance set out by Natural England. The HRA included recommended that, because the Essex Estuaries SAC and Thames Estuary and Marshes SPA and Ramsar fall within the 10km 'Zone of Influence' identified in the local plan HRA report, the approach to avoidance and mitigation measures set out in the Essex Recreational disturbance Avoidance and Mitigation Strategy (RAMS) will be required. The potential for in-combination effects as a result of recreational pressures between the Local Authorities is well established and recognised and the RAMS approach has been specifically advocated to address such issues. More detail is provided in **Chapters 4 and 5**.

The HRA report also provided recommendations in relation to water quality because the Ingatestone and Doddinghurst WRCs are at capacity. It was recommended that the Council prepared their Plan in consultation with Thames Water and Anglian Water to ensure that development is delivered in locations that can accommodate increased sewage inputs or appropriate upgrades provided. The potential for in-combination effects with Basildon has been considered in this assessment, but due to reliance on separate WRC's no such effects are predicted.

## Castle Point Borough Council Local Plan 2007

Plan Owner/ Competent Authority:	Castle Point Borough Council
Related work HRA/AA:	None available – see below
Notes on Plan documents:	<p>Castle Point Borough withdrew its New Local Plan 2016 following a failing at the Examination in Public and confirmation by the Planning Inspector that Castle Point had failed to meet its Duty to Cooperate. Following its decision to withdraw the New Local Plan 2016 on 29th March 2017, the Council will continue to use the 1998 Adopted Local Plan as amended and saved by the Secretary of State for Communities and Local Government in 2007.</p> <p>In June 2018, the council resolved to work on a Local Plan. The Local Plan 2018 has drawn on previous evidence and public consultation responses received from the 2014 and 2016 Local Plans. The first public consultation on the new Local Plan 2018 was held between 4th July to 15 August 2018.</p>

There is currently no up to date HRA for Castle Point. Nevertheless, the HRA screening of the New Local Plan 2016 identified the potential for 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). Castle Point Borough is one of the Essex Authorities which have signed a Memorandum of Understanding relating to the production and implementation of an Essex Coastal RAMS. This is discussed in more detail in **Chapter 5** but provides a sufficient level of certainty to ensure that in-combination effects between Basildon Borough and Castle Point Borough will be avoided.

## Chelmsford Local Plan

<b>Chelmsford Local Plan</b>	
Plan Owner/ Competent Authority:	Chelmsford City Council
Related work HRA/AA:	Chelmsford Pre-Submission Local Plan Habitat Regulations Assessment (January 2018)
Notes on Plan documents:	A draft Local Plan was submitted to the Secretary of State on 29 <sup>th</sup> June 2018. Development provided for includes 16,170 new houses during 2001-2021.
<b>Conclusions on potential effects of relevance to Basildon Local Plan HRA</b>	
<p>The HRA screening identified the potential for recreational effects on the Crouch and Roach Estuaries SPA and Ramsar, Blackwater Estuary SPA and Ramsar, and the Essex Estuaries SAC, both alone and in-combination. The Appropriate Assessment stage explicitly sets out the Authorities commitment to the Essex Coastal RAMs and Chelmsford City Council is one of the Essex Authorities which have signed a Memorandum of Understanding relating to the production and implementation of the RAMS. The HRA concluded that delivery of the Local Plan will have no adverse effects on the integrity of European Sites as a result of recreational pressures either alone or in-combination with other plans. This is discussed in more detail in <b>Chapter 5</b> but the RAMS approach being followed provides a sufficient level of certainty to ensure that in-combination effects between Basildon Borough and Castle Point Borough will be avoided.</p>	

<b>Gravesham District Local Plan Core Strategy (Kent)</b>	
Plan Owner/ Competent Authority:	Gravesham Borough Council
Related work HRA/AA:	HRA of Proposed Submission Core Strategy December 2012 HRA Addendum Report December 2013 HRA of Local Plan Site Allocations and Development Management Policies Document
Notes on Plan documents:	The Local Plan Core Strategy and Policies Map were adopted on 30 September 2014 Development provided for includes at least 6,170 new dwellings during 2011-2028.  Gravesham is currently preparing the Site Allocations and Development Management Policies Document. Once adopted, it will form part of the Development Plan and replace the remaining saved policies in the Gravesham Local Plan First Review. No HRA is currently available.
<b>Conclusions of HRA of Local Plan Core Strategy and Policies Map 2014 of relevance to Basildon Local Plan HRA</b>	
<p>The following likely significant effects of relevance to the Basildon Local Plan HRA were identified:</p> <ul style="list-style-type: none"> <li>Recreational disturbance: the HRA screening identified potential likely significant effects on 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.</li> </ul>	

<b>Maldon District Local Development Plan</b>	
Plan Owner/ Competent Authority:	Maldon District Council
Related work HRA/AA:	Maldon District Council Pre-Submission Local Development Plan 2014 - 2029 Sustainability Appraisal Report incorporating Strategic Environmental Assessment and Habitats Regulations Assessment
Notes on Plan documents:	The Secretary of State Approved the Maldon District Local Development Plan on 21st July 2017
<b>HRA Conclusions of relevance to Basildon Local Plan HRA</b>	
<p>A number of individual polices were identified as having potential likely significant effects:</p> <ul style="list-style-type: none"> <li>• <i>S2 Strategic Growth</i>: 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 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.</li> <li>• <i>Policy H7 Agricultural and Essential Workers' Accommodation</i>: The provision of accommodation for agricultural workers has the potential to have a likely significant effect on the international sites depending on the location of these developments. The creation of new development could cause damage to habitats if located within the international sites, or noise and visual disturbance from the proximity of the buildings to the international sites. Whilst locations are not known at this time it is considered that the predominantly estuarine nature of the international sites means they are not suitable for development due to access, risk of flooding and lack of suitable land. In addition, this development is intended to accommodate small numbers of people, therefore the associated noise and visual disturbance on the international sites would be minimal. It is therefore considered that this policy is not likely to have a significant effect on the sites.</li> <li>• <i>Policy N1 Green Infrastructure Network</i>: Through the creation of a green infrastructure network across the District there is the potential that this policy could result in increased numbers of people along the estuaries, causing a visual and noise disturbance.,</li> </ul> <p>The HRA 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.</p> <p>Despite the conclusions within the above HRA, it is noted that Maldon District Council are part of the group of 11 Essex Authorities which have agreed to work together to ensure effects associated with recreational pressures are avoided by means of an Essex RAMS. Therefore, as detailed in Chapter 5, it is predicted that the mitigation and avoidance measures being actively endorsed and undertaken by the Essex Authorities provide additional reassurance that any potential in-combination effects will be avoided.</p>	

<b>Thurrock Council Core Strategy</b>	
Plan Owner/ Competent Authority:	Thurrock Council
Related work HRA/AA:	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.
Notes on Plan documents:	<p>Core Strategy Adopted December 2011 plus Focussed Review adopted January 2015; the Main Modifications proposed by the latter have been subject to an HRA addendum.</p> <p>Development provided for includes 13,550 new dwellings during 2009-2021 plus an indicative 4,750 during 2021-2026.</p>



## Thurrock Council Core Strategy

Thurrock Council is currently working on producing a new Local Plan, however no HRA has yet been undertaken.

### HRA of Adopted Core Strategy - Conclusions of relevance to Basildon Local Plan HRA

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

**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.

**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.

**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. Since the production of the 2013 HRA, the Essex wide consensus of the risks of in-combination effects as a result of recreation are better understood and it is likely that recreational pressures will form an important aspect of the forthcoming HRA of the new Local Plan. Nevertheless, Thurrock is one of the 11 Essex Authorities which have signed a Memorandum of Understanding to produce and implement an Essex Coastal RAMS. This is discussed in more detail in **Chapter 5**.

## Rochford Local Plan

Plan Owner/ Competent Authority:	Rochford District Council
Related work HRA/AA:	Habitats Regulations Assessment Screening of Rochford Core Strategy, January 2011
Notes on Plan documents:	Rochford is in the process of developing a new local plan. Several HRAs exist which are being used as part of the evidence base for informing the preparation of the Local Plan Core Strategy adopted December 2011.

### HRA of Adopted Core Strategy 2011 - Conclusions of relevance to Basildon Local Plan HRA

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 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

## Rochford Local Plan

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.

### **HRA of Adopted Allocations Plan 2014 - Conclusions of relevance to Basildon Local Plan HRA**

The screening considered the likely significant effects on fifteen European sites within the influence of the plan. It was assessed that the majority of policies/ allocations were unlikely to have a significant effect on European sites alone given the location and capacity of proposed development. Given the distance of the larger allocations from European sites and their situation, adjacent to existing towns (such as Rochford, Rayleigh and Hockley), it was assessed that there would be no direct impacts as a result of proposed development. The screening identified the potential for indirect impacts as a result of increased abstraction and increased pressure on sewerage capacity; however, given the capacity of the allocations it was considered unlikely that the proposed development alone would result in an impact that would lead to significant effects on European sites.

It was also considered that appropriate site level mitigation would be available and could be required at the planning application stage to address any unforeseen impacts of individual developments on European sites. It was concluded that the mitigation provided by policies in the Core Strategy and Allocations DPD as well as current regulatory processes (EA Review of Consents) will ensure that the potential impacts of proposed development on the environment are minimised. It was concluded that none of the policies/allocations in the Pre-Submission Allocations DPD would be likely to have significant effects on identified European sites either alone or in-combination.

### **HRA of Adopted development Management Plan 2014 - Conclusions of relevance to Basildon Local Plan HRA**

The assessment concluded that none of the policies in the Pre-Submission Development Management Document are likely to have significant impacts, either alone or in combination, on European Sites.

### **HRA of Land West of Hullbridge (14/00813/OUT)**

Taking the above into account responses from Natural England the assessment concluded that the proposed development alone will not have adverse effects on the integrity of the Crouch and Roach Estuaries SPA and Ramsar site as a result of habitat loss or increased disturbance. In order to address representations from NE, the HRA recommended that the Council should apply a planning condition to secure the detailed design of the on-site green infrastructure, to ensure that opportunities are taken to design-in circular walks / dog-walking routes and associated facilities as an alternative to walking along the SPA / Ramsar site.

In its response to the outline application in January 2015, NE referred to an application on the opposite side of the estuary to the north-west in Chelmsford City Borough that could potentially have in combination effects with development proposed as part of the application being considered through this HRA. The Appropriate Assessment found that the combined increase in disturbance is not likely to be of significance, due to the relative few occupants within the caravan park utilising the extension in residency within the winter months, the availability of alternative public open space in close proximity to the Hullbridge site and the relatively small numbers of birds recorded within this part of the estuary.

Rochford is also one of the 11 Essex Authorities which have signed a Memorandum of Understanding to produce and implement an Essex Coastal RAMS. This is discussed in more detail in Chapter 5.

## Swale Borough Local Plan – Bearing Fruits 2031 – Adopted 26 July 2017

### Swale Borough Local Plan – Bearing Fruits 2031 – Adopted 26 July 2017

Plan Owner/ Competent Authority:	Swale Borough Council
Related work HRA/AA:	Habitats Regulations Assessment: Bearing Fruits 2031: The Swale Borough Local Plan: Proposed Main Modifications June 2016
Notes on Plan documents:	Local Plan was adopted on 26 July 2017. Development provided for includes 10,800 dwellings for 2010-2031. Swale Borough Council is in the early stages of the next Local Plan, which we are aiming to complete by 2022. It will cover the period from 2022-2038.

#### Conclusions on potential effects of relevance to HRA of Basildon Local Plan

The HRA included a detailed consideration of other plans and projects as part of the spring 2015 HRA of the submitted Local Plan and no significant additional plans and projects were identified as part of the have emerged since that time that would lead to new potential pathways for an in combination effect. The main potential for an in-combination effect was identified as being that of cumulative recreational pressure in combination with the Local Plans or Core Strategies of other local authorities planning to deliver net additional recreational development within 6km of the Thames Estuary & Marshes SPA/Ramsar site, Medway Estuary & Marshes SPA/Ramsar site and Swale SPA/Ramsar site. This issue was thoroughly explored in earlier HRAs for the Swale Local Plan and independently as part of the strategic access management and monitoring strategy (SAMM). The conclusion was that likely significant effects would be avoided both alone and in-combination.

### Essex Minerals Local Plan

Plan Owner/ Competent Authority:	Essex County Council
Related work HRA/AA:	Essex County Council Replacement Minerals Local Plan: Pre Submission Draft Habitats Regulations Assessment Report November 2012
Notes on Plan documents:	The Essex Minerals Local Plan was adopted on 8 July 2014. The 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.

#### HRA Conclusions of relevance to Basildon Local Plan HRA

Likely significant effects were restricted to those associated with air quality and predation, both of which were scoped out of the Basildon Local Plan HRA as part of the application of assumptions at the initial screening stage, and therefore there is no mechanism available which would result in in-combination effects between this plan and the Basildon Local Plan.

### Essex Waste Local Plan

Plan Owner/ Competent Authority:	Essex County Council
Related work HRA/AA:	Essex County Council and Southend-on-Sea Borough Council Replacement Waste Local Plan: Pre-submission – Habitat Regulations Assessment Screening Report (January 2016)

## Essex Waste Local Plan

Notes on Plan documents:

The Essex and Southend-on-Sea Waste Local Plan was adopted by Essex County Council on 11 July and Southend-on-Sea Borough Council on 19 October 2017

### HRA Conclusions of relevance to Basildon Local Plan HRA

The HRA concluded that the main potential for adverse effects caused by the allocated sites is likely to be from air pollution, water pollution or disturbance to birds. It stated that it should be possible to mitigate the effects identified.

Air pollution and bird disturbance not related to recreational actions have been ruled out of the Basildon Local Plan HRA and the Essex Waste Local Plan will therefore not contribute to likely significant effects or greater as a result of in-combination effects. In combination effects are therefore limited to water pollution, however the HRA concludes that such measures can be avoided through the implementation of control measures and as a result, the potential for in-combination effects between the plans as a result of water pollution is also considered negligible.

## Major infrastructure projects<sup>23</sup>

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

Plan Owner/ Competent Authority:

Planning Inspectorate

Related work HRA/AA:

Not yet carried out

Notes on project:

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>24</sup>

### HRA Conclusions of relevance to Basildon Local Plan HRA

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. There is a possibility that the loss of land might affect this SPA/Ramsar as a result of loss of offsite functionally linked land, however effects will remain uncertain until a HRA is carried out. Furthermore, the loss of offsite functionally linked land as a result of the Basildon Borough Local Plan was concluded not to result in adverse effects on the integrity of the Thames Estuary and Marshes SPA and Ramsar either alone or in-combination.

### Tilbury Gas Fired Power Station, Thurrock

Plan Owner/  
Competent

Planning Inspectorate

<sup>23</sup> National Infrastructure Planning website <http://infrastructure.planningportal.gov.uk/>

<sup>24</sup> SLR Consulting, Perry's Farm Isle of Grain Request for Scoping Opinion, November 2013

## Tilbury Gas Fired Power Station, Thurrock

Authority:	
Related work HRA/AA:	Not yet carried out
Notes on Plan documents:	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.

### HRA Conclusions of relevance to Basildon Local Plan HRA

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>25</sup>. Potential types of in-combination effects on Thames Estuary and Marshes SPA and Ramsar site are uncertain until an HRA is carried out but may include loss of supporting habitat for internationally designated bird populations, noise, air quality, dust and hydrology. In particular, there is a possibility that the loss of land might affect this SPA/Ramsar as a result of loss of offsite functionally linked land, however effects will remain uncertain until a HRA is carried out. Furthermore, the loss of offsite functionally linked land as a result of the Basildon Borough Local Plan was concluded not to result in adverse effects on the integrity of the Thames Estuary and Marshes SPA and Ramsar either alone or in-combination.

## London Paramount

Plan Owner/ Competent Authority:	Planning Inspectorate
Related work HRA/AA:	Not yet carried out
Notes on Plan documents:	The Entertainment Resort has been accepted by the UK Government as the first 'Business or Commercial Project' to be considered a Nationally Significant Infrastructure Project (NSIP). The overall site including the access corridor to the A2, totalling approximately 545 hectares, is principally based on the Swanscombe Peninsula on land to the east of Ingress Park, between the A226 and the River Thames.

### HRA Conclusions of relevance to Basildon Local Plan HRA

The Thames Estuary and Marshes Special Protection Area and Ramsar wetland are approximately 7.5km to the east of the site. There is a possibility that the loss of land might affect these sites as a result of loss of offsite functionally linked land, however effects will remain uncertain until a HRA is carried out. Furthermore, the loss of offsite functionally linked land as a result of the Basildon Borough Local Plan was concluded not to result in adverse effects on the integrity of the Thames Estuary and Marshes SPA and Ramsar either alone or in-combination.

<sup>25</sup> RWE npower, Environmental Impact Assessment Scoping Report for Proposed Tilbury C Combined Cycle Gas Turbine Power Station, July 2010.

<sup>4</sup> London Paramount Entertainment Resort Environmental Impact Assessment Scoping Report London Resort Company Holdings November 2014

## Appendix 3: Screening of Likely Significant Effects

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
<b>CHAPTER 6 - ACHIEVING SUSTAINABLE DEVELOPMENT</b>				
SD1	Strategic approach to sustainable development	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreational pressure</p> <p>Loss of offsite functionally linked land</p>	7, 9, 13	<p>This Policy establishes the total amounts of residential development to be provided in the Borough.</p> <p>Reasons for identifying the indicated types of likely significant effects from residential development within the Borough are discussed in <b>Chapter 4</b>.</p>
SD2	The settlement hierarchy and distribution of growth	None	na	<p>Policy establishes the broad distribution of the development specified by Policy SD1, directing most development within or adjacent the three main towns.</p> <p>The locations for development are specified by other policies within the Local Plan which have been separately assessed below. Since there is nothing to suggest that the amounts of development specified by this policy could not be accommodated without likely significant effects no matter where they took place within the Borough, this policy is screened out on the basis that the potential effects of development are more appropriately assessed through the HRA of the subordinate policies.</p>
SD3	Designated Neighbourhood Areas	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>Policy sets out the ways in which the Council will support neighbourhood planning bodies in the preparation of their Neighbourhood Plans. Policy SD3 allocates minimum housing targets of 1,350 homes and 39 homes for Neighbourhood Plan Areas Bowers Gifford and North Benfleet and Ramsden Bellhouse, respectively – to be delivered through Neighbourhood Plans. Until the locations are known within the Neighbourhood Plan Areas it is not possible to rule out the potential for significant effects. The Neighbourhood Plan Areas Neighbourhood Plans will be subject the HRA.</p> <p>European sites within 10 km of the Neighbourhood Plan Areas are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, and Thames Estuary and Marshes SPA and Ramsar site. In the absence of mitigation it is assumed that residential development in the Neighbourhood Plan Areas could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The Neighbourhood Plan Areas contain areas of flood risk, including Flood Zone 3 (1 in a 100 or greater chance of river flooding each year). Although it is likely that these areas will be avoided, this cannot be ruled out at this stage.</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				<p>Nevertheless, development is likely to occur on greenfield land potentially creating impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
SD4	Presumption in favour of sustainable development	None	na	While this policy sets out a positive approach to development, the comprehensive policy framework provided by the Local Plan should ensure that development proposals are governed by more the more specific policies in the remainder of the Local Plan, the effects of which have been separately considered in the HRA.
<b>CHAPTER 7: BUILDING A STRONG, COMPETITIVE ECONOMY</b>				
E1	Economic growth strategy	None	na	<p>This policy seeks to support new jobs through provision of additional employment land, as well as providing broad support for economic growth.</p> <p>Employment sites within the Borough boundary will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary</p> <p>Some sites also have higher fluvial flood risk than others and directing more development to these could result in a loss of flood storage and increase flood risk downstream at European sites; this is assessed via the HRA Screening of policies E5-E8 below and development could not occur through this strategic policy alone.</p> <p>In light of the type of development and the distance between potential development sites and European sites, other types of likely significant effect are not judged likely.</p> <p><b>Recommendation:</b> provision of additional employment land should be phased to ensure that it is aligned with the provision of supporting infrastructure. (HRA Screening conclusion is not dependent on adoption of this recommendation)</p>
E2	Existing employment areas for general B class uses	None	Na	<p>Policy defines the existing employment areas to which employment development for existing employment areas specified by Policy E1 will be directed in the first instance.</p> <p>Employment sites within the Borough boundary will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary</p> <p>In light of the type of development and the distance between potential development sites and European sites, other types of likely significant effect are not judged likely.</p>
E3	Existing employment area for research and development uses	None	na	<p>Policy directs some of the employment development specified by Policy E1 to the Ford Technical Centre and Dunton, specifying that it must be for research and development.</p> <p>This development location will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				<p>downstream European sites.</p> <p>In light of the type of development and the distance between potential development sites and European sites, other types of likely significant effect are not judged likely.</p>
E4	Protection of Existing Employment Areas for B2 Manufacturing and Industrial Uses	None	na	<p>Policy protects land within the Burnt Mills Industrial Estate and land within the Festival Business Park Existing Employment Areas for B2 Manufacturing and Industrial Uses.</p> <p>Employment sites within the Borough boundary will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary.</p> <p>Some sites also have higher fluvial flood risk than others and directing more development to these could result in a loss of flood storage and increase flood risk downstream at European sites; this is assessed via the HRA Screening of the employment site allocation policies and development could not occur through this strategic policy alone.</p> <p>In light of the type of development and the distance between potential development sites and European sites, other types of likely significant effect are not judged likely.</p>
E5 (with H5)	Land West of Gardiners Lane South, Basildon	<p>Increased flood risk</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for employment development on the northern edge of Basildon town, in accordance with the broad distribution defined by Policy E4.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
E6	Land East of Burnt Mills, Basildon	<p>Increased flood risk</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for employment development on the north east edge of Basildon town, in accordance with the broad distribution defined by Policy E4.</p> <p>The site contains a small area of Flood Zone 3 (1 in a 100 or greater chance of river flooding each year). Furthermore, development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
E7	Rural enterprise sites	None	na	<p>The policy retains existing rural enterprise sites in Basildon to be used for B1-B8 uses. As such development is to be guided towards existing areas used for business and development in these locations is not considered likely to be capable of significant effects on the European sites beyond the Borough boundary.</p>



Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
E8	Untidy industry zone	None	na	The policy allows for development of untidy industry uses within in the Harvey Road and Archers Field area of the Burnt Mills Industrial Estate with proposals within the existing industrial areas to be assessed on as per their likely effects on nearby uses and the availability of sites within the Untidy Industry Zone. Untidy industry is not to be permitted outside of identified employment areas.
E9	Locations for employment development	None	na	The policy steers class-B development and employment generating sui generis uses towards allocated Employment Areas or Rural Enterprise Sites in Basildon. Employment development in these locations is not considered likely to give rise to significant effects on the European sites beyond the Borough boundary. The policy also requires that development within these areas does not contribute to pollution or disturbance while development of this type is only to be supported if it does not result in adverse impacts upon environmental quality. Individual projects would be subject to project level HRA, if relevant.
E10	Non B class uses in employment areas	None	na	The policy addresses non B class uses in employment areas in Basildon. As such the policy itself would not lead to a greater level of development within the Borough but will rather support non-B class uses where the relevant criteria have been satisfied.
E11	Aligning skills and jobs	None	na	The policy encourages developments for employment use to include improvements to help support the betterment of skills levels amongst local residents. The policy is therefore not expected to lead to development in itself.
<b>CHAPTER 8: ENSURING THE VITALITY OF TOWN CENTRES</b>				
R1	Retail and leisure strategy	None	n/a	<p>Policy establishes the total amounts of retail, leisure and other main town centre use development to be provided in the Borough. The policy also prioritises development in identified existing centres (primarily Basildon, Billericay, Laindon, Pitsea and Wickford) rather than out of centre locations.</p> <p>Retail and leisure sites within the Borough boundary will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary</p> <p>Some locations have higher fluvial flood risk than others and directing more development to these could result in a loss of flood storage and increase flood risk downstream at European sites; this is assessed via the HRA Screening of policies R2-R6 below and development could not occur through this strategic policy alone.</p> <p>In light of the type of development and the distance between potential development sites and European sites, other types of likely significant effect are not judged likely.</p>
R2	Basildon town centre regeneration	<p>Changes in water quantity and quality – e.g. reduced water quality via treated wastewater or combined sewer overflows</p> <p>Increased recreational</p>	7, 9	<p>The policy identifies Basildon town centre as the primary focus for all major retail and leisure development in the Borough, in accordance with the broad distribution defined by Policy R1. It further provides for development of 1,500-2,000 units, a further education college, business, community and open space uses.</p> <p>As explained under Policy R1, it is judged that the only potential likely significant effect from retail development in the Borough's town centres is increased downstream flood risk if they are built in flood storage areas (assumed to be Flood Zone 3). Basildon town centre is not within Flood Zone</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
		pressure		<p>3 therefore this risk is screened out.</p> <p>In addition to retail and leisure development, Policy R2 also directs large scale residential development to Basildon town centre. In line with the other strategic housing allocation policies, consideration is therefore also given to potential likely significant effects in relation to changes in water quantity and quality or increased recreation pressure.</p> <p>AWS has indicated that infrastructure and/or treatment upgrades may be required to Basildon WRC and to the foul sewerage network to serve residential growth in Basildon urban area. Reduced water quality effects cannot, therefore, be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, and Thames Estuary and Marshes SPA and Ramsar site, the closest of these being Thames Estuary and Marshes approximately 6.6 km to the south. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p><b>Recommendation:</b> In recognition of the fact that this policy proposes residential development as well as retail/town centre developments, development must be supported by sufficient infrastructure, including any improvements required to the drainage network or water recycling centre. (HRA Screening conclusion is not dependent on adoption of this recommendation)</p>
R3	Laindon town centre regeneration	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p>	7, 9	<p>The policy identifies Laindon town centre as a focus for regeneration via a mixed use scheme providing retail, at least 224 residential units and a mix of other town centre uses in accordance with the broad distribution defined by Policy R1.</p> <p>As explained under Policy R1, it is judged that the only potential likely significant effect from retail development in the Borough's town centres is increased downstream flood risk if they are built in flood storage areas (assumed to be Flood Zone 3). Laindon town centre is not within Flood Zone 3 therefore this risk is screened out.</p> <p>In relation to the proposed residential development, consideration is also given to potential likely significant effects in relation to reduced water quality or increased recreation pressure.</p> <p>AWS has indicated that infrastructure and/or treatment upgrades may be required to Basildon WRC and to the foul sewerage network to serve residential growth in Basildon urban area. Reduced water quality effects cannot, therefore, be ruled out in the absence of mitigation.</p> <p>The only European site within 10 km of the development site is Thames Estuary and Marshes SPA and Ramsar site, approximately 7.8 km to the south. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on this European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p><b>Recommendation:</b> In recognition of the fact that this policy proposes residential development as well as retail/town centre developments, housing development must be</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				supported by sufficient infrastructure, including any improvements required to the drainage network or water recycling centre. (HRA Screening conclusion is not dependent on adoption of this recommendation)
R4	Pitsea town centre regeneration	Reduced water quality via treated wastewater or combined sewer overflows	4	<p>The policy identifies Pitsea town centre as a focus for regeneration via development of retail and other town centre uses in accordance with the broad distribution defined by Policy R1.</p> <p>As explained under Policy R1, it is judged that the only potential likely significant effect from retail development in the Borough's town centres is increased downstream flood risk if they are built in flood storage areas (assumed to be Flood Zone 3). Pitsea town centre is not within Flood Zone 3 therefore this risk is screened out.</p>
R5	Wickford town centre regeneration	<p>Changes in water quantity and quality – e.g. reduced water quality via treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p>	7, 9	<p>The policy identifies Wickford town centre as a focus for regeneration via development of retail and other town centre uses and 15-100 residential units in accordance with the broad distribution defined by Policy R1.</p> <p>As explained under Policy R1, it is judged that the only potential likely significant effect from retail development in the Borough's town centres is increased downstream flood risk if they are built in flood storage areas (assumed to be Flood Zone 3). A very small proportion of Wickford town centre lies within Flood Zone 3 therefore this risk is screened out on the basis that flood storage areas could be avoided through appropriate layout within the town centre.</p> <p>In relation to the proposed residential development, consideration is also given to potential likely significant effects in relation to reduced water quality or increased recreation pressure.</p> <p>AWS has indicated that infrastructure and/or treatment upgrades may be required to Wickford WRC and to the foul sewerage network to serve residential growth in Wickford urban area. Reduced water quality effects cannot, therefore, be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Benfleet and Southend Marshes SPA and Ramsar site, the closest of these being Crouch &amp; Roach Estuaries approximately 4.0 km to the east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p><b>Recommendation:</b> In recognition of the fact that this policy proposes residential development as well as retail/town centre developments, housing development must be supported by sufficient infrastructure, including any improvements required to the drainage network or water recycling centre. (HRA Screening conclusion is not dependent on adoption of this recommendation)</p>
R6	Billericay town centre enhancement	None	n/a	<p>The policy identifies Billericay town centre as a focus for regeneration via development of a local foodstore and safeguarding of existing town centre uses in accordance with the broad distribution defined by Policy R1.</p> <p>As explained under Policy R1, it is judged that the only potential likely significant effect from retail development in the Borough's town centres is increased downstream flood</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				risk if they are built in flood storage areas (assumed to be Flood Zone 3). Billericay town centre is not within Flood Zone 3 therefore this risk is screened out.
R7	Town centre boundaries	None	n/a	Policy defines town centre boundaries within which town centre policies apply. As such it does not provide for development.
R8	Primary shopping frontages	None	n/a	Policy sets out criteria for change of A1 (shops) use to other Town centre uses and encourages beneficial use of vacant units. As such, it does not provide for development.
R9	Secondary shopping frontages	None	n/a	Policy allows for a wider range of other town centre uses in Town Centres away from the main shopping area but does not provide for development.
R10	Local centres	None	n/a	Policy resists loss of A1 (shops) use in Local Centres at ground floor level whilst allowing a wider range of uses, including residential on upper floors. It also allows for the creation of new Local Centres where necessary as part of larger site allocations. As such it does not provide for new development itself.
R11	Out of town retail areas	None	n/a	Policy identifies existing out of centre shopping areas in the Borough and resists extension of these in favour of town centre locations. As such it does not provide for development.
R12	Festival Leisure Park and Surroundings	None	n/a	Policy identifies resists extension of a large, existing out of centre shopping area within the Basildon urban area in favour of town centre locations. As such it does not provide for development but instead helps to steer retail development to existing Town Centres.
R13	Locations for Hotel/Visitor Accommodation	Changes in water quality Increased flood risk Loss of offsite functionally linked land	7, 9	<p>Policy provides for the development of a full service hotel ancillary to Basildon golf course.</p> <p>Capacity in Basildon WRC and the local sewerage network to serve this development are uncertain and in the absence of mitigation, reduced water quality effects cannot be ruled out in-combination with the residential development proposed by the Local Plan.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
R14	Locations for town centre uses	None	n/a	The policy seeks to guide retail use development towards the town centre areas of the Borough through the implementation of a sequential approach. Retail development at out of centre locations is to be prioritised at existing out of centre shopping areas or leisure parks. As such, it encourages development to be sited away from the European sites which surround the Borough.
R15	Existing Local	None	n/a	The policy addresses the change of use of existing shops or

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
	Shops			buildings last used as such. It relates to the qualitative criteria for this change of use.
R16	Hot food takeaways	None	n/a	The policy addresses the criteria by which hot food takeaways might be provided in town centre and local centre locations. The policy in itself would not lead to development which might impact the surrounding European sites.
R17	Betting office	None	n/a	The policy sets criteria for the permitting of betting offices in the Borough. In itself, it is not expected to result in the provision of new development in the Borough.
<b>CHAPTER 9: PROMOTING SUSTAINABLE TRANSPORT</b>				
T1	Transport Strategy	None	n/a	Junction improvements on the A127 within Basildon Borough would be remote from European sites as these are located outside the Borough boundary. The more generic transport improvements supported by the policy would be delivered by other organisations such as Network Rail, Highways England or Essex County Council and would, if required, be subject to project level HRA.
T2	Improvements to carriageway infrastructure	None	n/a	Listed carriageway improvements within Basildon Borough would be remote from European sites as these are located outside the Borough boundary and would, if required, be subject to project level HRA.
T3	Improvements to footpaths, cycling and bridleway infrastructure	None	n/a	Policy commits to working with partners including Essex County Council to deliver improvements to footpath and cycling infrastructure within the Borough. All development within the Borough is remote from the European sites which lie outside of its boundary, avoiding the potential for direct damage or loss.
T4	Improvements to public transport infrastructure and services	None	n/a	Policy commits to working with partners including Essex County Council and bus service providers to deliver improvements to the public transport network and expects development proposals to support establishment of new public transport services. All development within the Borough is remote from the European sites which lie outside of its boundary, avoiding the potential for direct damage or loss.
T5	Transport improvement areas: safeguarded land	None	n/a	Policy safeguards land for transport improvements specified in policies TS2, TS3 and TS4 but does not itself provide for development.
T6	Managing congestion	None	n/a	The policy requires the production of Transport Assessments or Transport Statements to understand the implications of developments that would generate significant levels of traffic. It requires development proposals to incorporate appropriate mitigation measures to address any adverse impacts on the transport network. Where the residual impacts are severe development is not be granted planning permission. As such the policy will not lead to development in itself.
T7	Safe and sustainable access	None	n/a	The policy seeks to improve local transport safety and access of sustainable modes of transport. It requires the production of Travel Plans, setting out how sustainable travel behaviours will be encouraged where traffic generating development is proposed. Links to sustainable and active modes of transport are to be provided safely and in close proximity to new developments. As such the policy will not lead to development in itself.
T8	Parking	None	n/a	The policy addresses the provision of parking for cars and bicycles in the Borough in the context of the sustainability of

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
	standards			the site and the level of accessibility of public transport at the site. The level of parking to be provided is to be guided by further policy (Essex Vehicle Parking Standards) and as such policy TS8 will not in itself result in further development or any potential increase in traffic in the Borough.
T9	Town Centre Employment Areas and Railway Station Parking Provision	None	n/a	This policy seeks to increase parking provision within town centres, employment areas and at the Borough's railway stations and will not in itself result in further development or any potential significant affect.
T10	Electric Vehicle Charging Infrastructure	None	n/a	This supports the NPPF requirement to move to a low carbon future by providing the necessary infrastructure for increasing the use of electric vehicles. It will not in itself result in further development or any potential significant affect.
T11	Access for servicing	None	n/a	The policy addresses adequate sizing of and the appropriate location of development which require access by HGVs on a regular basis on main or secondary distributor routes as to avoid increases in congestion in the Borough. The policy also addresses the design of all other developments in terms of access by waste collection vehicles and delivery vehicles. The policy is not expected to result in a level of development in itself.
<b>CHAPTER 10: COMMUNICATIONS INFRASTRUCTURE</b>				
COM 1	Digital communications infrastructure strategy	None	n/a	Whilst this policy supports the development of communications infrastructure, this would be within the Borough and thus remote from European sites.
COM 2	Determining applications for digital telecommunications equipment	None	n/a	The policy requires that telecommunications equipment is designed and sited to minimise detrimental impacts upon various elements including visual and residential amenity of neighbouring properties as well as seeking opportunities for sharing existing masts.
COM 3	Digital communications infrastructure in new residential and commercial developments	None	n/a	The policy provides that new development in the Borough is to provide for new or improved existing communications infrastructure. The policy in itself is not expected to result in new development in the Borough.
<b>CHAPTER 11: DELIVERING A WIDE CHOICE OF HIGH QUALITY HOMES</b>				
H1	Housing strategy	Changes in water quantity and quality – e.g. via treated wastewater or combined sewer overflows  Increased recreation pressure  Loss of offsite functionally linked land	7, 9, 13	Together with Policy SD1, this Policy establishes the total amounts of residential development to be provided in the Borough.  Reasons for identifying the indicated types of likely significant effects from residential development within the Borough are discussed in <b>Chapters 4 and 5</b> .

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
H2	Specialist accommodation strategy	None	n/a	Policy ensures that an appropriate proportion of the residential development specified by policy H1 will be for older people and people with disabilities but does not itself provide for additional development.
H3	Gypsy, traveller and travelling showpeople accommodation strategy	Changes in water quantity and quality – e.g. via treated wastewater or combined sewer overflows  Increased recreation pressure  Loss of offsite functionally linked land	7, 9, 13	Policy sets out the number of additional pitches to be provided for Gypsies, Travellers and Travelling Showpeople.  Reasons for identifying the indicated types of likely significant effects from residential development within the Borough are discussed in <b>Chapters 4 and 5</b> .
H4	New Gypsy and traveller and travelling show people plot provision	Changes in water quantity and quality – e.g. via treated wastewater or combined sewer overflows  Increased recreation pressure  Loss of offsite functionally linked land	7, 9, 13	Policy sets out the location of new pitches to be provided for gypsies, travellers and travelling show people. Policy allocates 3 new sites for a total of 5 gypsy and traveller pitches in North Benfleet, Fobbing and Crays Hill and notes provision to be delivered through other site allocation policies, notably Policy H5 and E6.  Reasons for identifying the indicated types of likely significant effects from residential development within the Borough are discussed in <b>Chapters 4 and 5</b> .
H5 (with E5)	Land west of Gardiners Lane South, Basildon	Changes in water quantity and quality – e.g. via treated wastewater or combined sewer overflows  Increased recreation pressure  Loss of offsite functionally linked land	7, 9	The policy identifies a site for residential, gypsy and traveller, and employment development on the northern edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.  AWS has indicated that capacity is available in Basildon WRC and the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.  European sites within 10 km of the development site are Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, and Thames Estuary and Marshes SPA and Ramsar site, the closest of these being Crouch and Roach Estuaries approximately 7.7 km to the north east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.  The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				<p>downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing</p>
H6	Land North of Dry Street, Basildon	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the southern edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Basildon WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Benfleet and Southend Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site, the latter being the closest of these approximately 5.3 km to the south. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H7	Land North and South of London Road, Vange	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally</p>	7, 9	<p>The policy identifies a site for residential development on the southern edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.</p> <p>Capacities in the local WRC and the local sewerage network to serve the proposed level of residential growth at this site are uncertain therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Benfleet and Southend Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site, the latter being the closest of these approximately 5.3 km to the south. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p>



Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
		linked land		<p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H8	West of Basildon Urban Extension	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the western edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.</p> <p>The only European site within 10 km of the development site is Thames Estuary and Marshes SPA and Ramsar site, located approximately 8.0 km to the south east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on this European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H9	Land west of Steeple View, Laindon	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the north west edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.</p> <p>Capacities in the local WRC and the local sewerage network to serve the proposed level of residential growth at this site are uncertain therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>The only European site within 10 km of the development site is Thames Estuary and Marshes SPA and Ramsar site, located approximately 9.0 km to the south east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on this European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				<p>the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H10	Land East of Noak Bridge, Basildon	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the northern edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Basildon WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, and Thames Estuary and Marshes SPA and Ramsar site, the closest of these being Thames Estuary and Marshes approximately 9.0 km to the south. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>Only a very small part of the site is within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H11	East of Basildon	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential and gypsy and traveller development on the eastern edge of Basildon town, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Wickford WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site, Benfleet and Southend Marshes SPA and Ramsar site, and Thames Estuary and Marshes SPA and Ramsar site, the closest of these being Benfleet and Southend Marshes approximately 4.0 km to the south east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				<p>development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H12	Land south of Wickford	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential and gypsy and traveller development on the south eastern edge of Wickford, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Wickford WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Benfleet and Southend Marshes SPA and Ramsar site, the former being the closest of these approximately 3.6 km to the north east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>Only a very small part of the site is within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H13	Land north of Southend Road, Shotgate	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased</p>	7, 9	<p>The policy identifies a site for residential development on the north eastern edge of Wickford, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Wickford WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
		<p>flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>		<p>Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Benfleet and Southend Marshes SPA and Ramsar site, the former being the closest approximately 2.4 km to the north east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H14	Land South of Barn Hall, Wickford	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential and gypsy and traveller development on the north eastern edge of Wickford, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Wickford WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Benfleet and Southend Marshes SPA and Ramsar site, the former being the closest of these approximately 4.3 km to the east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H15	Land north of London Road, Wickford	<p>Reduced water quality - treated wastewater or combined</p>	7, 9	<p>The policy identifies a site for development on the western edge of Wickford, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Wickford WRC</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
		<p>sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>		<p>but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site and Benfleet and Southend Marshes SPA and Ramsar site, the former being the closest of these approximately 5.4 km to the east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H16	Land north east of Potash Road, Billericay	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the northern edge of Billericay, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Billericay WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site is approximately 9.5 km to the east of the development site, all other European sites being more than 10 km away. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on this European site, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				foraging and loafing.
H17	South West Billericay	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development in south west Billericay.</p> <p>AWS has indicated that capacity is available in Billericay WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>All European sites are more than 10 km from this development site and it is therefore assumed that any contribution it could make to increased recreation pressure would be negligible.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H18	Land South of Windmill Heights, Billericay	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the southern edge of Billericay, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Billericay WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on the basis of fewer homes than the 70 provided for by Policy H25 and on an individual site rather than cumulative basis, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>All European sites are more than 10 km from this development site and it is therefore assumed that any contribution it could make to increased recreation pressure would be negligible.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>

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H19	Land East of Greens Farm Lane, Billericay	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the south eastern edge of Billericay, in accordance with the broad distribution defined by Policy SD2.</p> <p>Capacities in the local WRC and the local sewerage network to serve the proposed level of residential growth at this site are uncertain therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site is approximately 9.9 km to the east of the development site, all other European sites being more than 10 km away. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on this European site, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H20	Land east of Southend Road, Billericay	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development on the south eastern edge of Billericay, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Billericay WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site is approximately 9.9 km to the east of the development site, all other European sites being more than 10 km away. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on this European site, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
H21	Self-build allocations	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The Plan identifies three small parcels of land as being suitable specifically for self-build. The sites are adjacent to existing settlement boundary of Billericay and whilst suitable their development potential would not be realised unless they were allocated through policy and subsequently removed from the extent of the Green Belt. Issues as detailed above for H21 may result from this policy.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H22	Housing growth in Crays Hill	<p>Reduced water quality - treated wastewater or combined sewer overflows</p> <p>Increased recreation pressure</p> <p>Increased flood risk – impermeable surfaces</p> <p>Loss of offsite functionally linked land</p>	7, 9	<p>The policy identifies a site for residential development within the extended envelope of Crays Hill village to the west of Wickford, in accordance with the broad distribution defined by Policy SD2.</p> <p>AWS has indicated that capacity is available in Wickford WRC but that upgrades may be required to the local sewerage network to serve the proposed level of residential growth at this site. However, this is on an individual site basis and the cumulative impact of all of the proposed sites may require enhancement to capacity, therefore reduced water quality effects cannot be ruled out in the absence of mitigation.</p> <p>European sites within 10 km of the development site are Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site, and Benfleet and Southend Marshes SPA and Ramsar site, the closest of these being Benfleet and Southend Marshes approximately 7.1 km to the north east. In the absence of mitigation it is assumed that residential development at this site could contribute to increased recreation pressure on all of these European sites, in-combination with other residential development in Basildon Borough and elsewhere.</p> <p>The site is not within Flood Zone 3 (1 in a 100 or greater chance of river flooding each year) therefore it is judged that development here would not be likely to increase flood risk at downstream European sites. Development on this greenfield location could create impermeable surfaces and thereby increase surface drainage rates. This has the potential to increase flood risk at downstream European sites, in-combination with other greenfield development proposed by the Local Plan.</p> <p>Loss of land, particularly agricultural land uses or semi-natural habitat has the potential to affect the bird SPA and Ramsar bird populations which rely upon offsite habitats for foraging and loafing.</p>
H23	The location of residential development	None	n/a	<p>The policy supports the provision of residential development in the existing urban areas of the Borough, dependent on the meeting of a number of criteria. The policy guides development towards areas where it is generally not to give rise to significant effects on the European sites beyond the Borough boundary and individual proposals would be subject to project level HRA, if appropriate.</p>



Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
H24	The location of new gypsy, traveller and travelling showpeople yards	None	n/a	The policy details criteria that sites for gypsies, travellers and travelling show people must meet if they are to gain planning permission. These are limited mainly to design issues however there is also reference in the policy to requiring the site not be affected by a high risk of flooding which would help to avoid the likelihood of increasing downstream flood risk to European sites.
H25	The size and types of homes	None	n/a	The policy will not lead to development but relates to the housing mix provided as to meet the needs of existing and future households in the Borough.
H26	Affordable housing provision	None	n/a	The policy will not lead to development but relates to the affordability of development provided for elsewhere within the Local Plan.
H27	Houses in multiple occupation and the subdivision of family homes	None	n/a	The policy addresses the conversion of large family sized dwelling houses into Houses in Multiple Occupation (HMOs) or flats in the Borough. It will not lead to development in itself.
H28	Maximising housing stock	None	n/a	The policy seeks to protect the redevelopment of residential properties for other uses in most circumstances. As such it is not expected to lead to development in itself.
<b>CHAPTER 12: REQUIRING GOOD DESIGN</b>				
DES1	Achieving good design	None	n/a	The policy will not lead to development but relates to the design of development provided for elsewhere within the Local Plan.
DES2	Areas of special development control	None	n/a	Policy sets criteria for the layout and design of new dwellings in specified areas where this is required to preserve the amenity of existing development. As such, it will not result in new development.
DES3	Urban character areas	None	n/a	The policy is not expected to lead to development but seeks to promote development which responds to local character and distinctiveness as per the Urban Character Areas of the Borough.
DES4	High quality buildings	None	n/a	The policy requires that new development in the Borough is of a high quality. New development is to be appropriate in terms of siting, scale, form, proportions, materials, details and the overall design. The policy is not likely to result in new development in itself.
DES5	High quality landscaping and public realm design	None	n/a	The policy requires that development allows for high quality soft landscaping, hard landscaping and boundary treatments as appropriate and demonstrates how it will contribute to the public realm of the Borough in terms of both visual amenity and safety. It also promotes the use of native species within new developments as a biodiversity priority. The policy is not expected to lead to new development in itself.
DES6	Public art and interpretation	None	n/a	The policy seeks to protect existing public art in the Borough and the provision of new art work at developments which meet certain criteria. The policy is not expected to lead to new development in itself.
DES7	Managing Advertisements	None	n/a	The policy addresses advertising structures in the Borough requiring that these features do not impact upon public safety and amenity. The policy is not expected to lead to new development in itself.
<b>CHAPTER 13: PROMOTING HEALTHY COMMUNITIES</b>				

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
HC1	Health and Wellbeing Strategy	None	n/a	This policy sets out how the Council will seek to deliver development and growth which has a positive impact in the health and wellbeing of residents and will not lead to development or significant effects.
HC2	Strategic approach to leisure and recreation	None	n/a	<p>Policy sets strategy of support for provision of new and enhanced open space, sports and recreational facilities. Built facilities supported by this strategy will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the type of development.</p> <p>Open space provision supported by this strategy should help to mitigate the potential increase in recreation pressure on European sites from housing development proposed elsewhere in the Local Plan. It is uncertain how effective this will be at diverting residents who might otherwise visit European sites as this will depend on a variety of factors including the accessibility and design of new/enhanced open space relative to the European sites.</p>
HC3	Strategic approach to education, skills and learning	None	n/a	Policy sets strategy of support for provision of new or enhanced education facilities. Built facilities supported by this strategy will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the type of development.
HC4	Community facilities	None	n/a	Policy is mainly concerned with safeguarding existing community facilities and will not lead to development. Enhancements to these facilities are also supported; such development will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the type of development.
HC5	Public open spaces	None	n/a	Policy is mainly concerned with safeguarding existing public open spaces and will not lead to development. Enhancements to these open are also supported; such development will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the type of development.
HC6	Local green spaces	None	n/a	Policy is mainly concerned with safeguarding local green spaces and will not lead to development. Enhancements to these open are also supported; such development will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the type of development.
HC7	Allotment gardens	None	n/a	Policy is concerned with safeguarding existing allotments and will not lead to development.
HC8	Playing fields associated with education facilities	None	n/a	Policy is concerned with safeguarding existing playing fields and will not lead to development.
HC9	Private open	None	n/a	Policy is mainly concerned with safeguarding existing private open spaces and will not lead to development. Development

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	spaces			of essential facilities is also supported; such development will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the type of development.
HC10	New and enhanced community facilities	None	n/a	The policy supports the provision of new community facilities in the Borough where they are appropriate. These facilities are to be related to defined settlements and therefore it is expected that the policy would guide development to the more developed areas of the Borough minimising potential for detrimental impacts upon the European sites beyond the Borough boundary. 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.
HC11	Loss of community facilities	None	n/a	The policy seeks to protect community facilities in the Borough allowing for the change of use of these facilities where they have been identified as being unviable. The policy is not expected to lead to new development in itself.
<b>CHAPTER 14 PROTECTING GREEN BELT LAND</b>				
GB1 & GB2	Strategic approach to Green Belt protection, and Green Belt extent	None	n/a	These two policies apply NPPF Green Belt policy to Basildon Borough, defining the extent of the Green Belt in the Borough and describing how the NPPF purposes of Green Belt apply locally. As such, they are not expected to lead to development although they will contribute to directing development proposed by other policies away from the Green Belt and towards the town centres of Basildon, Laindon, Pitsea and Pickford where regeneration is supported.
GB3	New development in the Green Belt	None	n/a	The policy seeks to protect the Green Belt from new development and will not lead to development in itself. By preventing new in the Green Belt around the Borough's settlements (except in very special circumstances that clearly outweigh the harm to the Green Belt) it also helps to steer development away from locations closer to European sites, encouraging development within existing urban areas.
GB4	Green belt infill	None	n/a	This policy permits limited residential infill in the Borough's 13 Plotland settlements. Such development will avoid direct habitat loss or damage to European sites since these are located outside of the Borough boundary and more remote effects are judged unlikely given the distance of these sites from the Borough boundary and the small scale of development that will be permitted.
GB5	Extensions and alterations to buildings in the Green Belt	None	n/a	The policy allows for extensions of existing properties within the Green Belt provided they are not disproportionate in terms of the size of the original building. As such the policy would steer development away from European sites as these are situated beyond the Borough boundary. The small scale of development involved is not considered likely to be capable of significant indirect effects on European sites.
GB6	Replacement buildings in the Green Belt	None	n/a	The policy supports the provision of replacement buildings of the same use for those within the Green Belt. Replacement development is not be materially bigger and should not result in an intensification of use. As such the policy would steer development away from European sites as these are situated beyond the Borough boundary. The small scale of development involved is not considered likely to be capable of

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				significant indirect effects on European sites.
GB7	Change of use of buildings and land in the Green Belt	None	n/a	The policy supports the change of use of buildings within the Green Belt dependent upon the satisfaction of a number of criteria to include requiring that an intensification of use will not occur and unacceptable generation of traffic or pollution is unlikely. As such the policy will not result in development.
GB8	Ancillary buildings and structures in the Green Belt	None	n/a	The policy addresses the provision of ancillary buildings in the Green Belt. The development of ancillary buildings and previous extensions is to be limited to an increase of no more than 35% more than the original size of the building. As such the policy would steer development away from European sites as these are situated beyond the Borough boundary. The small scale of development involved is not considered likely to be capable of significant indirect effects on European sites.
GB9	Boundary treatments in the Green Belt	None	n/a	The policy protects the Green Belt from encroachment in terms of boundary amendments with support to be given to these types of proposals only where the openness of the Green Belt can be maintained. The policy specifically relates to enclosure or boundary treatment at Green Belt locations and as such should not result in development in itself.
GB10	Agricultural worker dwellings in the Green Belt	None	n/a	The policy prevents the granting of permissions for new dwellings in the Green Belt in most circumstances but this type of development is to be permitted if a functional need can be established. As such the policy would steer development away from European sites as these are situated beyond the Borough boundary. The small scale of development involved is not considered likely to be capable of significant indirect effects on European sites.
GB11	Positive uses of land in the Green Belt	None	n/a	The policy supports proposals in the Green Belt which will meet a number of criteria including not resulting in unacceptable generation of traffic, noise, or other forms of disturbances and improving nature conservation and opportunities for sports and recreation. As such this policy is not expected to result in development which would increase pressures on surrounding European sites and the provision of opportunities for sports and recreation may help reduce potential for recreational pressures in these areas.
<b>MEETING THE CHALLENGE OF CLIMATE CHANGE AND FLOODING</b>				
CC1	Responding to climate change	None	n/a	The policy seeks to reduce carbon emissions from the Borough and minimise climate change-related flood risk. This will be achieved by a variety of measures, these being set out in more detail in other Local Plan policies. The exception to this is the policy's requirement for large development proposals to incorporate renewable energy generation, preferably on-site. This requirement is not considered capable of likely significant effects on any European site.
CC2	Flood risk and drainage management	None	n/a	The policy sets out the strategic approach to reducing the risk of flooding in the Borough through measures which are covered in more detail by Policies CC3 and CC4. These are separately assessed below.
CC3	Washlands	None	n/a	This policy safeguards areas of flood and storm water storage within or on the edge of the Borough's settlements and will not lead to development.
CC4	Managing flood risk in new development	None	n/a	The policy seeks to reduce risk of flooding in the Borough through measures such as providing development at areas of reduced flood risk by making use of a sequential approach and the incorporation of SuDS as part of all development

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
				proposals. As such it will not lead to new development and should help to reduce the risk that development provided by other Local Plan policies might increase flood risk at downstream European sites.
CC5	Sustainable buildings - new builds	None	n/a	The policy seeks to require new buildings to be as sustainable as possible through appropriate design and location. This is to include energy and water efficiency as well as waste management. The policy in itself would not result in a new development.
CC6	Sustainable buildings - extensions, alterations and conversions	None	n/a	The policy seeks to require extensions in the Borough to be as sustainable as possible through appropriate design and location. This is to include risk in terms of extreme weather events, energy and water efficiency as well as waste management. The policy in itself would not result in a new development.
CC7	Renewable energy infrastructure	None	n/a	The policy supported the provision of renewable energy and low carbon schemes. Similarly wind turbines and solar farms are to be supported.  Wind turbine development can pose a collision risk to designated bird populations of European sites outside of the immediate development area. It is judged that the effect would only be likely to be significant if a major wind farm were placed on a major migration route or within an important feeding, breeding or roosting area. Policy CC7 offers only generic support for renewables development but the likely scale and location of development will depend on the particular proposals that come forward. Individual wind energy development proposals would be subject to project level HRA if required and it is judged that this is a more appropriate stage at which to assess the potential for likely significant effects on designated bird populations of European sites.  <b>Recommendation:</b> proposals for wind energy generation should include an assessment of whether the development site lies on a major migration route or within an important feeding, breeding or roosting area for any designated bird population of a European site. (HRA Screening conclusion is not dependent on adoption of this recommendation)
<b>CHAPTER 16: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT</b>				
NE1	Green infrastructure strategy	None	n/a	The policy supports protection, extension and enhancement of the Borough's green infrastructure network, creation of new habitats and partnership working to deliver the aims of the South Essex Green Grid Strategy and Greater Thames Marshes Nature Improvement Area. As such it is not expected to lead to development and should lead to improvements to the natural environment, including biodiversity.
NE2	Country parks	None	n/a	This policy safeguards existing Country Parks in the Borough and as such, will not lead to development.
NE3	Local wildlife sites	None	n/a	This policy seeks the conservation and enhancement of Local Wildlife Sites in the Borough. As such it is not expected to lead to development and should lead to improvements to the natural environment, including biodiversity.
NE4	Development impacts on	None	n/a	The policy supports developments which will result in net gain in biodiversity in the Borough while requiring that

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
	ecology and biodiversity			development which is likely to have adverse effects on a number of different designated biodiversity sites is not normally permitted. Where harm on other biodiversity sites is likely appropriate mitigation should be incorporated. The policy in itself would not result in a new development.
NE5	Development impacts on landscape and landscape features	None	n/a	The policy seeks to protect natural and semi-natural features and the character of the landscape from inappropriate development. Although the purpose of the policy is to enhance the quality and visual amenity of the landscape and urban environment in the Borough, protection of natural and semi-natural features may also have positive effects on biodiversity in the area. The policy in itself would not result in a new development.
NE6	Pollution control and residential amenity	None	n/a	The policy seeks to protect the environment in the Borough from pollution to land, air or water. This is to be achieved through the appropriate siting of development and through design considerations (e.g. the successful incorporation of the SuDS). The policy will not result in development in itself.
NE7	Development on contaminated land	None	n/a	The policy addresses development in terms of contaminated land and its remediation. The policy in itself would not result in a new development.
NE8	Ensuring health and safety in development (hazardous uses, sewerage treatment, pylons)	None	n/a	The policy addresses new hazardous development in the Borough in terms of assessment against Health and Safety Executive Guidance and impacts on water quality when certain development is located within 400m a Water Recycling Centre. As such the policy may help to reduce potential for impacts from pollution in the Borough. The policy would not result in development in itself.
NE9	Development of agricultural land	None	n/a	
<b>CHAPTER 17: CONSERVING AND ENHANCING THE HISTORIC ENVIRONMENT</b>				
HE1	Strategy for conserving and enhancing the historic environment	None	n/a	The policy sets out the strategic approach to conserving and enhancing the historic environment in the Borough through sensitive development proposals. The policy would not result in development in itself.
HE2	Conservation areas	None	n/a	The policy seeks to preserve and enhance character and appearance of Conservation Areas in the Borough. This is to be achieved through retaining features and buildings important to the character of the area and through design which is sensitive but allows for energy efficiency and renewable energy technologies. The policy would not result in development in itself.
HE3	Listed buildings	None	n/a	The policy allows for development and change of use of a Listed Building provided there is to be protection for the significance of the building among other consideration. If a proposal is to affect the significance of a Listed Building this is to be weighed against any public benefit with harm or loss of significance to be minimised through appropriate mitigation. The policy would not result in development in itself.
HE4	Scheduled monuments and archaeology	None	n/a	The policy seeks to protect Scheduled Monuments and other important archaeological sites adopting a precautionary approach. The policy would not result in development in itself.
HE5	Locally identified	None	n/a	The policy supports development of locally identified heritage assets dependent upon that development being sensitive and

Ref	Policy name	Potential likely significant effects	Reasons for potential likely significant effects - categories	Reasons for potential likely significant effects - discussion
	heritage assets			sympathetic of the character of the asset in question. The significance of heritages is to be retained where development might affect them. The policy in itself would not result in development.
<b>CHAPTER 18: IMPLEMENTATION, MONITORING AND REVIEW</b>				
IMP1	Implementation strategy	None	n/a	This policy describes mechanisms and processes which will help the Local Plan policies to be delivered, for example establishment of an Infrastructure Delivery Plan and setting of Community Infrastructure Levy contributions to essential infrastructure. As such, it will not in itself result in development.
IMP2	Use of Planning Obligations	None	n/a	The policy requires new development to contribute towards mitigating its impact on the environment amongst other things. This is to include flood prevention, green infrastructure (which may reduce potential recreational pressures on the surrounding European sites) and climate change and energy initiatives (which may reduce potential for impacts as a result of pollution according on the surrounding European sites). The policy will permit developers to provide the necessary infrastructure themselves instead of providing financial contributes to this end.
IMP3	Phasing of development	None	n/a	The policy sets the phasing of development which is to be acceptable in terms of incorporation of environmental mitigation and infrastructure as well as affordable housing. The policy in itself should not result in development.
IMP4	Piecemeal development	None	n/a	The policy supports the development of part of an allocated development site where the developer can meet the criteria of the Council. The policy in itself should not result in development.