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HRA Report for North Essex Authorities Shared Strategic Section 1 Local Plan

Prepared by LUC
July 2019

Project Title: HRA Report for North Essex Authorities Shared Strategic 1 Local PlanSection 1 Local Plan

Client: Braintree District, Colchester Borough, and Tendring District Councils

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1 Introduction

1.1 LUC has been commissioned by the North Essex Authorities, including Braintree District Council, Colchester Borough Council and Tendring District Council, to carry out a Habitats Regulations Assessment (HRA) of the North Essex Authorities Shared Strategic Section 1 Local Plan.

1.2 The purpose of this HRA Report is to determine whether the North Essex Authorities Shared Strategic Section 1 Local Plan is likely to result in significant effects to any European site[1], either alone or in-combination with other plans and projects. If 'Likely Significant Effects' cannot be ruled out, recommendations are made on how these may be avoided or mitigated in order to ensure no adverse effects on the integrity of European sites.

1.3 This HRA Report updates the previous HRA of the pre-submission (Regulation 19) version of the Essex Authorities Shared Strategic Section 1 Local Plan. The update addresses advice provided by the Planning Inspector following the HRA Hearing of Examination in Public of the Section 1 Local Plan[2] that*"The NEAs will need to ensure that the screening stage assessment of that report, and any future HRA reports, is compatible with the CJEU's judgment*" [in *People Over Wind, Peter Sweetman v Coillte Teoranta* [CJEU Case C-323/17]. This HRA update considers this ruling and other recent relevant case law judgments including '*Holohan'* as detailed below.

Background to the North Essex Authorities Shared Strategic Section 1 Local Plan

1.4 The neighbouring authorities of North Essex agreed to come together because of their shared desire to promote sustainable growth; and the particular need to articulate the strategic priorities within the wider area and how they will be addressed. Central to this is the effective delivery of planned strategic growth, particularly housing and employment development, with the necessary supporting infrastructure.

1.5 The main purpose of the North Essex Authorities Shared Strategic Section 1 Local Plan is to:

- Articulate a spatial portrait of the area, including its main settlements and strategic infrastructure, as a framework for accommodating future planned growth.
- Set out the numbers of additional homes and jobs across the area that will be needed covering the period 2033.
- Provide a strategic vision for how planned growth in North Essex will be realised.
- Set strategic objectives and policies for key growth topics.
- Highlight the key strategic growth locations across the area and the necessary new or upgraded infrastructure to support this growth.

The requirement to undertake Habitats Regulations Assessment of development plans

1.6 The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007 and updated in 2010 and again in 2012. These updates were consolidated into the Conservation of Habitats and Species

[1] Including Special Areas of Protection (SPA), Special Areas of Conservation (SAC), and Ramsar sites. Sites of Community Importance (SCI), potential SPAs (pSPA) and candidate SACs (cSAC) and proposed Ramsar sites are also considered.
[2] https://www.braintree.gov.uk/downloads/file/7906/ied011_-_inspectors_section_1_post-hearing_letter_to_neas_-_8_june_2018

Regulations 2017[3]. Therefore, when preparing its Local Plan, the North Essex Authorities (NEA) are required by law to carry out a Habitats Regulations Assessment, although consultants can undertake the HRA on their 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).

1.7 HRA refers to the assessment of the potential effects of a development plan or project on one or more European sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs):

- SPAs are classified under the European Council Directive 'on the conservation of wild birds' (79/409/EEC; 'Birds Directive') for the protection of wild birds and their habitats (including particularly rare and vulnerable species listed in Annex 1 of the Birds Directive, and migratory species).
- SACs are designated under the Habitats Directive and target particular habitats (Annex 1) and/or species (Annex II) identified as being of European importance.

1.8 Potential SPAs (pSPAs)[4], candidate SACs (cSACs)[5], Sites of Community Importance (SCIs)[6] and Ramsar sites should also be included in the assessment.

- Ramsar sites support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971).

1.9 For ease of reference during HRA, these designations are collectively referred to as European sites[7], despite Ramsar designations being at the global international level.

1.10 The overall purpose of the HRA is to conclude whether or not a proposal or policy, or development plan, would adversely affect the integrity of the European site in question either alone or in combination with other plans and projects. 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 is assumed.

Stages of the Habitats Regulations Assessment

1.11 **Table 1.1** below summarises the stages involved in carrying out HRA, based on various guidance documents[8],[9],[10].

Table 1.1: Stages of HRA Report

Stage	Task	Outcome
Stage 1: Screening (the 'Significance Test')	Description of the development plan. Identification of potentially affected European sites and factors contributing to their integrity.	Where effects are unlikely, prepare a 'finding of no significant effect report'. Where effects judged likely, or lack of information to prove

[3] *The Conservation of Habitats and Species Regulations 2017* (Statutory Instrument 2017 No. 1012) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments.

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

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

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

[7] The term 'Natura 2000 sites' can also be used interchangeably with 'European sites' in the context of HRA, although the latter term is used throughout this report.

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

[9] Planning for the Protection of European Sites. Guidance for Regional Spatial Strategies and Local Development Documents. Department for Communities and Local Government (DCLG), August 2006.

[10] The Appropriate Assessment of Spatial Plans in England. A guide to why, when and how to do it. RSPB. August 2007.

Stage	Task	Outcome
	Review of other plans and projects. Assessment of Likely Significant Effects of the development plan alone or in combination with other plans and projects.	otherwise, proceed to Stage 2.
Stage 2: Appropriate Assessment (the 'Integrity Test')	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 'imperative reasons of overriding public interest' (IROPI). 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.

1.12 In assessing the effects of the Local Plan in accordance with Regulation 105 of the Conservation of Habitats and Species Regulations 2017[11], 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 –
- 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 Yes –
- 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.]
- 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.

1.13 It is normally anticipated that an emphasis on the iterative process of HRA will help ensure that where necessary potential adverse effects are identified and eliminated through the inclusion of mitigation measures at Stage 2 which would avoid or mitigate adverse effects. The need to consider alternatives could imply more onerous changes to a plan document. It is generally

[11] SI No. 2017/2012

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.

1.14 The HRA should be undertaken by the 'competent authority' - in this case the North Essex Authorities of Braintree, Colchester and Tendring. LUC has been commissioned by North Essex Authorities to carry out HRA work on the Council's behalf, although this is to be reported to and considered by North Essex Authorities, as the competent authority, before adopting the Shared Strategic Section 1 Local Plan. The HRA also requires close working with Natural England as the statutory nature conservation body in order to obtain the necessary information, agree the process, outcomes and mitigation proposals. The Environment Agency, while not a statutory consultee for the HRA, is also in a strong position to provide advice and information throughout the process as it is required to undertake HRA for its existing licences and future licensing of activities.

Recent case law changes

1.15 This HRA has been reviewed and updated in light of recent case law findings, including most notably the 2018 'People over Wind' and 'Holohan' rulings from the Court of Justice for the European Union (CJEU), relevant elements of which are outlined below.

1.16 The *People over Wind, Peter Sweetman v Coillte Teoranta* (April 2018) judgment ruled that Article 6(3) of the Habitats Directive should be interpreted as meaning that mitigation measures 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."

1.17 The HRA screening stage for the NEA Shared Strategic Section 1 Local Plan has been updated to ensure that, in line with this judgment, it does not rely on avoidance or mitigation measures to draw conclusions as to whether the Local Plan could result in Likely Significant Effects on European sites, with any such measures being considered at the Appropriate Assessment stage as relevant. For that reason this screening report supersedes previous reports.

1.18 The *Holohan v An Bord Pleanala* (November 2018) judgment stated, amongst other things, that:

"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an 'appropriate assessment' must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site."

1.19 The HRA of the NEA Shared Strategic Section 1 Local Plan has described the non-qualifying habitats and species on which the qualifying features depend (see **Appendix 1**). In line with this judgment, the HRA has considered the potential for effects on habitats and species present on European sites, including those not listed as qualifying features, to result in secondary effects on the qualifying features of European sites, including the potential for complex interactions and dependencies. In addition, the HRA has considered the potential for effects on habitats and species located beyond the boundaries of European sites which may be important in supporting the ecological processes of the qualifying features. This report explicitly highlights that these considerations have been taken into account when undertaking the HRA of the NEA Shared Strategic Section 1 Local Plan.

HRA's of the North Essex Authorities Section 2 Local Plans

1.20 HRA reports were prepared for each of the NEA Section 2 Local Plans. Natural England reviewed and accepted the findings. The HRA conclusions for each of the Section 2 Local Plans provide a valuable indication of the key issues for consideration as part of the HRA of the Strategic Section 1 assessment, and subsequently where appropriate the findings have been used to inform the conclusions reached herein. As part of the iterative process of this Section 1 HRA, the Section 2 Local Plan HRAs were continued to be reviewed in light of further developments and consultation with Natural England to ensure that the information used in informing this assessment was appropriate and robust.

1.21 A summary of the HRA conclusions for each of the NEA Section 2 Local Plans is provided below.

Braintree

1.22 The Braintree Section 2 HRA concluded at the Screening stage that there was potential for Likely Significant Effects on the Colne Estuary SPA/Ramsar, Essex Estuaries SAC, and Blackwater Estuary SPA/Ramsar as a result of the effect of recreational impacts in-combination with the Tendring District Section 2 Local Plan, Colchester Borough Section 2 Local Plan, and the Shared Strategic Section 1 Local Plan.

1.23 The Appropriate Assessment stage identified whether the above Likely Significant Effects would, in light of mitigation and avoidance measures, result in adverse effects on the integrity of the European sites as a result of the in-combination effects identified. Where necessary, suitable mitigation measures and modified policy wording was provided which would enable a sufficient level of certainty to conclude no Adverse Effect on Integrity (AEoI).

1.24 The key recommendation made in the HRA report was for a Recreational disturbance Avoidance and Mitigation Strategy (RAMS) to be prepared jointly by the North Essex Authorities to mitigate the effect of recreational pressures on the above European Sites. As detailed in Section6, an Essex Coast RAMS has now been prepared. The Braintree Section 2 HRA concluded that, providing the key recommendations and mitigation requirements were implemented there would be no adverse effect on the Colne Estuary SPA/Ramsar, Essex Estuaries SAC, and Blackwater Estuary SPA/Ramsar, either alone or in-combination with other plans and projects.

Colchester

1.25 The Colchester Section 2 HRA concluded that the throughout the HRA process the LPA addressed the strategic issues and has highlighted relevant issues for the development management stage. It concluded, subject to the implementation of certain safeguards and avoidance measures that adverse effects on the integrity of European sites would be avoided or mitigated. Such measures included implementation of a RAMS; and a commitment to mitigation and phasing of the Tendring Colchester Borders Garden Community within the Section 1 Strategic Plan dependent on the findings of bird surveys.

1.26 This will need to take into account the cumulative numbers of SPA birds affected as parcels of land come forward for development. In the unlikely but possible event that cumulative numbers of SPA birds affected are likely to exceed thresholds of significance (i.e. >1% of the associated European Site), appropriate mitigation in the form of habitat creation and management in perpetuity, either on-site or through provision of strategic sites for these species elsewhere, will be required. It specified that, if required, mitigation will need to create and manage suitably located habitat which maximises feeding productivity for these SPA species, and such mitigatory habitat would need to be provided and fully functional prior to development which would affect significant numbers of SPA birds.

1.27 It recognised and committed to a need to delay the commencement of development in Langham until there is adequate capacity in the waste water and sewage infrastructure to serve the development.

1.28 The overall conclusion of the Colchester Section 2 Local Plan HRA was that the LPA as competent authority under the Habitat Regulations was able to conclude that Section 2 of the Local Plan would not adversely affect the integrity of European sites either alone or in-combination.

Tendring

1.29 The Tendring Draft Local Plan Section 2 HRA concluded at the Screening stage, that Likely Significant Effects on European sites, either alone or in combination with other policies and proposals, could not be ruled out in relation to:

- physical loss/damage on Abberton Reservoir SPA/Ramsar (offsite only), Blackwater Estuary SPA/Ramsar (offsite only), Hamford Water SAC (offsite only), Hamford Water SPA/Ramsar (offsite only), Stour and Orwell Estuaries SPA/Ramsar (direct and offsite habitat loss), and Colne Estuaries SPA and Ramsar (offsite only).
- Recreational Impacts – Essex Estuaries SAC, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA and Ramsar, and Colne Estuary SPA/Ramsar.
- Water quality – Essex Estuaries SAC, Stour and Orwell Estuaries SPA/Ramsar, Colne Estuary SPA/Ramsar.
- Non-toxic contamination – Stour and Orwell Estuaries SPA/Ramsar.
- Non-physical disturbance – Stour and Orwell Estuaries SPA/Ramsar.

1.30 The HRA advocated the approach to avoidance and mitigation being taken by Tendring District Council in addressing the key issues, particularly with regards to working alongside the other North Essex Authorities in relation to strategic growth. The HRA concluded that subject to specific policy safeguards and providing that additional mitigation measures and safeguards in relation to policies SAE5 and SAE6 were adopted and successfully implemented, it was concluded that there would be no adverse effects on European sites either alone or in-combination. Natural England in its role as the Statutory Consultee for the HRA, has confirmed that it supports these conclusions.

Structure of this report

1.31 This chapter (Chapter 1) has described the background to the preparation of the Shared Strategic Section 1 Local Plan and the requirement to undertake HRA. The remainder of the report is structured as follows:

- **Chapter 2** summarises the main components of the Section 1 Local Plan.
- **Chapter 3** describes the method used for the HRA Screening.
- **Chapter 4** provides the findings of the HRA Screening.
- **Chapter 5** sets out the HRA Screening conclusions, broad mitigation requirements and recommended next steps.
- **Chapter 6** provides the Appropriate Assessment and determines whether in light of mitigation and avoidance measures, the plan would result in adverse effect on site integrity.
- **Chapter 7** provides an overall conclusion of the HRA.

1.32 The main report is accompanied by a series of appendices:

- **Appendix 1** sets out the characteristics of the European sites covered by the HRA Screening.
- **Appendix 2** summarises the Screening Assessment matrix.
- **Appendix 3** summarises other plans and projects that could have the potential for in-combination effects with the Section 1 Local Plan.

2 North Essex Authorities Shared Strategic Section 1 Local Plan

2.1 A summary of the policies contained within the submitted version of the North Essex Authorities Shared Strategic Section 1 Local Plan is provided below.

Policy SP1: Presumption in Favour of Sustainable Development

2.2 When considering development proposals the Local Planning Authorities will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. They will always work pro-actively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

2.3 Sustainable development in North Essex will demonstrably contribute to the strategic and local vision and objectives and will accord with the policies in this Local Plan (and, where relevant, with polices in neighbourhood plans). Development that complies with the Plan in this regard will be approved without delay, unless material considerations indicate otherwise.

2.4 Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole or
- Specific policies in that Framework or the Plan that indicate that development should be restricted.

Policy SP2: Spatial Strategy for North Essex

2.5 Policy SP2 sets out the spatial strategy for North Essex. Existing settlements will be the principal focus for additional growth across North Essex within the plan period. Development will be accommodated within or adjoining settlements according to their scale, sustainability and existing role both within each individual district and, where relevant, across the wider strategic area.

2.6 Future growth will be planned to ensure settlements maintain their distinctive character and role, and to avoid coalescence between them. Re-use of previously-developed land within settlements is an important objective, although this will be assessed within the broader context of sustainable development principles, particularly to ensure that development locations are accessible by a choice of means of travel.

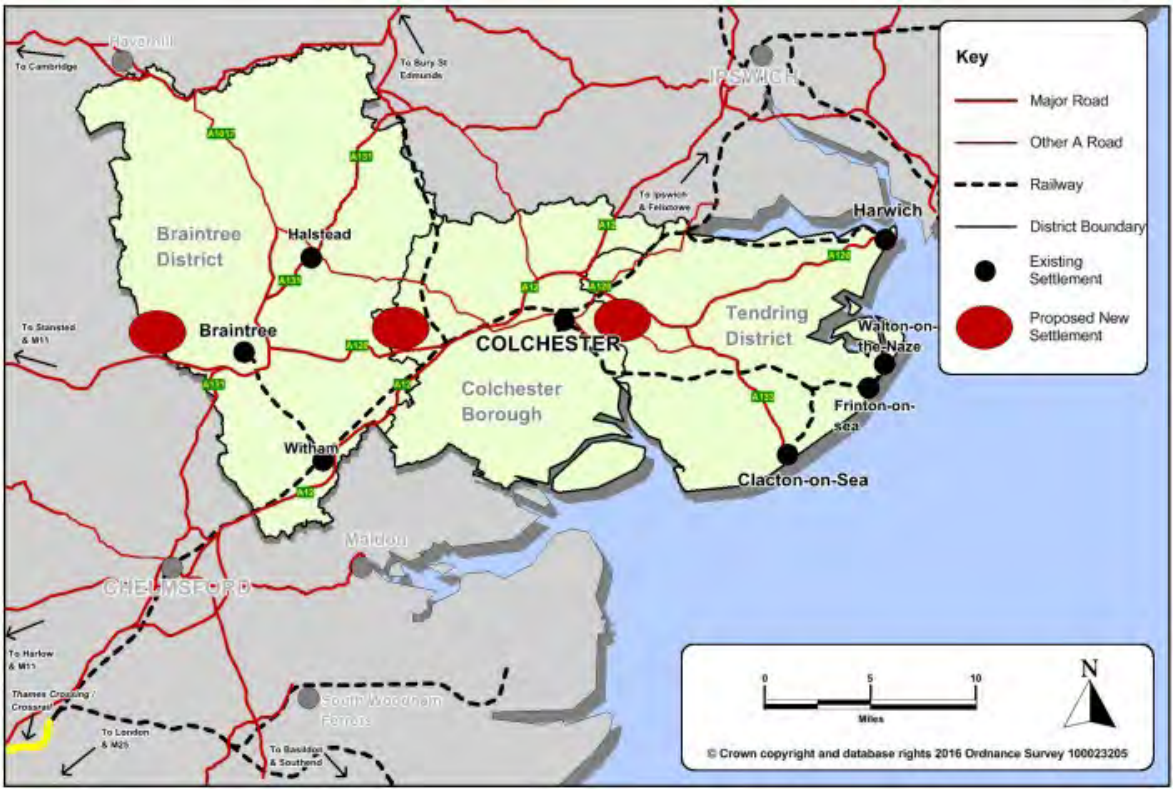
2.7 Each local authority will identify a hierarchy of settlements where new development will be accommodated according to the role of the settlement, sustainability, its physical capacity and local needs.

2.8 Beyond the main settlements the authorities will support diversification of the rural economy and conservation and enhancement of the natural environment.

2.9 Three new garden communities will be developed and delivered as part of the sustainable strategy for growth at the locations shown on Map 3.3 below and the Proposals Map. These new communities will provide strategic locations for at least 5,810 additional homes within the Plan period in North Essex. . Employment development will also be progressed with the expectation that substantial additional housing and employment development will be delivered in each

community beyond the current Local Plan periods. They will be planned and developed drawing on Garden City principles, with necessary infrastructure and facilities provided and a high quality of place-making and urban design.

2.10 Figure 2.1: Location of proposed New Garden Communities



Policy SP3: Meeting Housing Needs

2.11 Policy SP3 sets out housing needs. It proposes that the local planning authorities will identify sufficient deliverable sites or broad locations for their respective plan period, against the requirement in the table below.

Table 2.1: Housing Needs

	Housing requirement per annum	Minimum net additional homes in the Plan period
Braintree	716	14,320
Colchester	920	18,400
Tendring	550	11,000
North Essex	**2,186**	**43,720**

2.12 Each authority will maintain a sufficient supply of deliverable sites to provide at least five years' worth of housing; and will work proactively with applicants to bring forward sites that accord with the overall spatial strategy and relevant policies in the plan.

Policy SP4: Providing for Employment and Retail

2.13 Policy SP4 promotes a strong, sustainable and diverse economy will be promoted across North Essex with the Councils pursuing a flexible approach to economic sectors showing growth potential across the Plan period.

2.14 Employment forecasts have been developed using two standard models (East of England Forecasting Model (EEFM) and Experian 2016) which forecast total job growth for each of the local authorities based on past trends. Each local authority has been advised on the most appropriate modelling figure to use in the context of reconciling job and housing demand. These figures are set out for the housing market as follows for the period 2013-2037.

Table 2.2: Annual Employment Forecast

	Baseline (ha)	B use employment land required (ha)
Braintree	20.9	43.3
Colchester	22	30
Tendring	12	20
North Essex	**54.9ha**	**93.3**

2.15 More detailed employment policies are included in the second part of each authority's plan. However, the following strategic principles will underpin the approach to economic growth across North Essex.

- Sufficient land, premises and other provision will be identified to support the achievement of the minimum jobs numbers, recognising the importance of key sectors to be identified by each local authority.
- Priority will be given to use of previously-developed land in appropriate locations as well as, where it meets sustainable development principles, the expansion of existing employment locations.
- Existing and allocated employment sites will be safeguarded for employment use unless it can be demonstrated that there is no reasonable prospect of the site being used for that purpose. Alternative uses will be considered against relevant plan policies.
- Town and city centres are the appropriate locations for new office development.
- Employment development will be a key component of the new garden communities, as well as strategic growth locations more generally.

Policy SP5: Infrastructure and Connectivity

2.16 Policy SP5 states that development must be supported by provision of infrastructure, services and facilities that are identified to serve the needs arising from new development.

2.17 The following are strategic priorities for infrastructure provision or improvements within the strategic area:

- New and improved infrastructure required to support economic growth, strategic and site-specific priorities outlined in the second part of each Local Plan.
- Substantially improved connectivity by promoting more sustainable travel patterns, introducing transport packages to increase transport choice, providing better public transport infrastructure and services, and enhanced inter urban transport corridors.

- Increased rail capacity, reliability and punctuality; and reduced overall journey times by rail Support changes in travel behaviour by applying the modal hierarchy and increasing opportunities for sustainable modes of transport that can compete effectively with private cars.
- Prioritise public transport, particularly in the urban areas, including new and innovative ways of providing public transport including;
    - high quality rapid public transit networks and connections, in and around urban areas with links to the new Garden Communities;
    - maximising the use of the local rail network to serve existing communities and locations for large-scale growth;
    - a bus network that is high quality, reliable, simple to use, integrated with other modes and offers flexibility to serve areas of new demand; and
    - promotion wider use of community transport schemes.
- Improved road infrastructure and strategic highway connections to reduce congestion and provide more reliable journey times along the A12, A120, and A133 to improve access to markets and suppliers for business, widen employment opportunities and support growth.
- Improved junctions on the A12 and other main roads to reduce congestion and address safety.
- A dualled A120 between the A12 and Braintree.
- A comprehensive network of segregated walking and cycling routes linking key centres of activity contributing to an attractive, safe, legible and prioritised walking/cycling environment.
- Develop innovative strategies for the management of private car use and parking including support for electric car charging points.
- Provide sufficient school places in the form of expanded or new primary and secondary schools together with early years and childcare facilities, with larger developments setting aside land and/or contributing to the cost of delivering land for new schools where required.
- Facilitate and support provision of practical vocational training, apprenticeships, and further and higher education.
- Ensure that essential healthcare infrastructure is provided as part of new developments of appropriate scale in the form of expanded or new healthcare facilities including primary and acute care; pharmacies; dental surgeries; opticians, supporting community services including hospices, treatment and counselling centres.
- Require new development to maximise its positive contribution in creating healthy communities and minimise its negative health impacts, both in avoidance and mitigation, as far as is practicable.
- Roll-out of superfast broadband across Essex to secure the earliest availability for universal broadband coverage and fastest connection speeds for all existing and new developments. Provide sufficient school places in the form of expanded or new primary and secondary schools.

Policy SP6: Place Shaping Principles

2.18 This policy sets out design principles for new development. It specifies that all new development must meet the highest standards of built and urban design. The local authorities encourage the use of development frameworks and masterplans and will use design codes where appropriate for strategic scale developments.

2.19 All new development should reflect the following principles:

- Respond positively to local character and context to preserve and enhance the quality of existing communities.

- Provide buildings that exhibit individual architectural quality.
- Protect and enhance assets of historical or natural value.
- Create well-connected places that prioritise the needs of pedestrians, cyclists and public transport services above use of the private car.
- Where possible, provide a mix of land uses and densities with well-defined public and private spaces.
- Enhance the public realm through additional landscaping, street furniture and other distinctive features that help to create a sense of place.
- Include parking facilities that are well integrated as part of the overall design and are adaptable if levels of private car ownership fall;
- Provide streets and spaces that are overlooked and active and promote inclusive access Include parking facilities that are well integrated as part of the overall design.
- Provide an integrated network of multi-functional public open space and green and blue infrastructure that connects with existing green infrastructure where possible;
- Include measures to promote environmental sustainability including addressing energy and water efficiency.
- Protect the amenity of existing and future residents and users with regard to noise, vibration, smell, loss of light and overlooking.

Policy SP7: Development and Delivery of New Garden Communities in Essex

2.20 The following three new garden communities are proposed in North Essex in Policy SP7:

- Tendring and Colchester Borders, on the border of Colchester BC and Tendring DC, a new garden community will deliver up to 2,500 homes within the Plan period (as part of an overall total of between 7,000-9,000 homes) and 6.9ha of employment land within the Plan period (as part of an overall total of 24.9ha).
- West of Colchester, on the border of Colchester BC and Braintree DC, a new garden community will deliver up to 1,350 within the Plan period (as part of an overall total of between 15,000 – 24,000 homes) and 4ha of employment land within the Plan period (as part of an overall total of 71.2ha)..
- West of Braintree in Braintree DC and potentially on the border with Uttlesford DC, a new garden community will deliver up to 1,960 homes within the Plan period (as part of an overall total of between 7,000-10,000 homes) and 9.2ha of employment land within the Plan period (as part of an overall total of 44.1ha).

2.21 Each of these will be an holistically and comprehensively planned new community with a distinct identity that responds directly to its context and is of sufficient scale to incorporate a range of homes, employment, education & community facilities, green space and other uses to enable residents to meet the majority of their day-to-day needs, reducing the need for outward commuting. Delivery of each new community will be phased and underpinned by a comprehensive package of infrastructure.

2.22 The Councils will need to be confident, before any consent is granted, that the requirements detailed in para 2.23 have been secured either in the form of appropriate public ownership, planning agreements and obligations and, if necessary a local infrastructure tariff.

2.23 The design, development and delivery of each new garden community will conform with the following principles:

- Community and stakeholder empowerment in the design and delivery of each garden community from the outset and a long-term community engagement and activation strategy.

- The public sector working pro-actively and collaboratively with the private sector to design, and bring forward these garden communities, deploying new models of delivery, sharing risk and reward and ensuring that the cost of achieving the following is borne by those promoting the developments: (i) securing a high-quality of place-making, (ii) ensuring the timely delivery of both on-site and off-site infrastructure required to address the impact of these new communities, and (iii) providing a mechanism for future stewardship, management, maintenance and renewal of community infrastructure and assets.
- Promotion and execution of the highest quality of planning, design and management of the built and public realm so that the Garden Communities are characterised as distinctive places that capitalise on local assets and establish environments that promote health, happiness and well-being. This will involve having detailed masterplans and design guidance in place to inform and guide development proposals and planning applications. Planning applications for the garden communities will be expected to be consistent with approved masterplans and design guidance.
- Sequencing of development and infrastructure provision (both on-site and off-site) to ensure that the latter is provided in tandem with or ahead of the development it supports to address the impacts of the new garden communities and meet the needs of residents.
- Development that provides for a truly balanced and inclusive community and meets the housing needs of local people including a mix of dwelling sizes, tenures and types including provision for self- and custom-built homes to meet the requirements of those most in need including an appropriate level of affordable housing.
- Provide opportunities for employment within each new community and within sustainable commuting distance of it.
- Plan the new communities around a step change in integrated and sustainable transport systems for the North Essex area that put walking, cycling and rapid public transit systems at the heart of growth in the area, encouraging and incentivising more sustainable active travel patterns.
- Structure the new communities to create sociable, vibrant and walkable neighbourhoods with equality of access for all to a range of community services and facilities including health, education, shopping, culture, community meeting spaces, multi-functional open space, sports and leisure facilities.
- Specific garden community parking approach and standards will be developed that help promote the use of sustainable transport and make efficient use of land.
- Create distinctive environments which relate to the surrounding environment and that celebrate natural environments and systems, utilise a multi-functional green-grid to create significant networks of new green infrastructure including new country parks at each garden community, provide a high degree of connectivity to existing corridors and networks and enhance biodiversity.
- Secure a smart and sustainable approach that fosters climate resilience and a 21st century environment in the design and construction of each garden community to secure net gains in local biodiversity, highest standards of innovation in technology to reduce impact of climate change, water efficiency (with the aim of being water neutral in areas of serious water stress), and sustainable waste and mineral management.
- Put in place appropriate and sustainable long-term governance and stewardship arrangements for the new communities as well as long-term community engagement.

Policy SP8: Tendring/Colchester Borders Garden Community

2.24 The broad area of search shown in **Figure 2.1** above identifies a strategic area for development of a new garden community of which the details and final number of homes will be set out in a Masterplan Framework to be prepared jointly between Colchester BC and Tendring DC and which will incorporate the following;

- Housing for around 2,500 dwellings within the Plan period (as part of an overall total of between 7,000-9,000 homes).
- 6.9ha of Employment Land within the Plan period (as part of a total of 24.9ha).
- Neighbourhood centres incorporating provision for convenience shopping, community, health and cultural provision.
- Primary schools, a secondary school and other community facilities as appropriate.
- A high proportion of the garden community will comprise green infrastructure including a new country park around Salary Brook.

2.25 The Masterplan Framework will set out the nature, form and boundary of the new community. The masterplan will be produced in partnership with the development interests and will provide a layout showing the disposition and quantity of future land-uses, and give a three dimensional indication of the urban design parameters which will be incorporated into any future planning applications; together with a phasing and implementation strategy which sets out how the rate of development will be linked to the provision of the necessary social and physical infrastructure to ensure that the respective phases of the development do not come forward until the necessary infrastructure has been secured. The masterplan will incorporate mechanisms for regular review and updating over the course of the implementation of this garden community. The masterplan will include the following key components:

- It will secure appropriate integration with Colchester and the nearby University of Essex campus by the provision of suitable walking and cycling links and rapid public transport facilities to enable residents of the new community to have convenient access to town centre services and facilities in Colchester as well as Elmstead Market.
- A package of measures will be introduced to encourage smarter transport choices to meet the needs of the new community and maximise the opportunities for sustainable travel including the provision of a network of footpaths, cycleways and bridleways to enhance permeability within the site and to access and to access the adjoining area; development of a public rapid transit system; and effective measures to mitigate the transport impacts of the proposed development on the strategic and local road network.
- Foot and cycle ways shall be provided throughout the development linking the site to the University of Essex, Hythe station and Colchester Town Centre.
- A network of green infrastructure will be provided within the garden community including a community park facility, allotments, a new country park of a minimum of 70 hectares in size provided along the Salary Brook corridor and incorporating Churn Wood, the provision of sports areas with associated facilities and play facilities.
- Provision of improvements to waste water treatment including an upgrade to the Colchester Waste Water Treatment Plant and off-site drainage improvements.
- Provision, management and on-going maintenance of sustainable surface water drainage measures to control the risk of flooding on site and which will reduce the risk of flooding to areas downstream or upstream of the development.
- Provision of appropriate design and infrastructure that incorporates the highest standards of innovation in technology to reduce impact of climate change, water efficiency (with the aim of being water neutral in areas of serious water stress), and sustainable waste / recycling management facilities.

Policy SP9: Colchester/Braintree Boarders Garden Community

2.26 The broad area of search shown in **Figure 2.1**, is identified as a strategic area for development of a new garden community of which the details and final number of homes will be set out in a Masterplan Framework to be prepared jointly between Colchester BC and Braintree DC and which will incorporate the following;

- Housing for around 1,350 dwellings within the Plan period (as part of an overall total of between 15,000 to 24,000 homes)
- Provision for Gypsy and Traveller and Travelling showpeople,
- 4ha of Employment Land within the Plan period (as part of an overall total of 71.2ha)
- A district centre and neighbourhood centres incorporating provision for convenience shopping, community, health and cultural provision
- Primary schools, a secondary school and other community facilities as appropriate
- A high proportion of the garden community will comprise green infrastructure including a new country park.

2.27 A Masterplan framework setting out the nature, form and boundary of the new community will be undertaken as described above for Policy SP9. The masterplan will include the following key components:

- The design of the community will address the challenges offered by other features in particular the severance created by the A12 and A120 and maximise the opportunities afforded through integration with the existing community of Marks Tey, and the presence of the railway station, all underpinned by a strong green-grid of connected green space that provides great recreational opportunities for residents and connection to the wider countryside. The garden community will be designed and developed to have its own identity and be as self-sustaining as possible.
- A package of measures will be introduced to encourage smarter transport choices to meet the needs of the new community and maximise the opportunities for sustainable travel including the provision of a network of footpaths, cycleways and bridleways to enhance permeability within the site and to access the adjoining area.
- A network of green infrastructure will be provided within the garden community including a community park, allotments, a new country park, the provision of sports areas with associated facilities and play facilities.
- Provision of improvements to waste water treatment including an upgrade to the Colchester Waste Water Treatment Plant and off-site drainage improvements.
- Provision, management and on-going maintenance of sustainable surface water drainage measures to control the risk of flooding on site and which will reduce the risk of flooding to areas downstream or upstream of the development.
- Protection and/or enhancement of heritage and biodiversity assets within and surrounding the site including Marks Tey Hall, Easthorpe Hall Farm, Easthorpe Hall and the habitats along and adjoining the Domsey Brook and Roman River corridors.
- Provision of appropriate design and infrastructure that incorporates the highest standards of innovation in technology to reduce impact of climate change, water efficiency (with the aim of being water neutral in areas of serious water stress), and sustainable waste / recycling management facilities.
- Appropriate and sustainable long-term governance and stewardship arrangements for the new garden community including provision for lon-term management and maintenance of the public realm and community assets.

Policy SP10: West of Braintree Garden Community

2.28 The broad area of search, as shown in **Figure 2.1** above, is identified as a strategic area for development of a new garden community of which the details and final number of homes will be set out in a Masterplan Framework to be prepared jointly between Braintree DC and Uttlesford DC if applicable and which will incorporate the following;

- Housing for around 1,960 homes within the Plan period (as part of an overall total of between 7,000 – 10,000 homes).

- Provision for Gypsy and Travellers and Travelling Showpeople.
- 9.2ha of Employment Land within the Plan period (as part of an overall total of 44.1ha)
- Neighbourhood centres incorporating provision for convenience shopping, community, health and cultural provision.
- Primary schools, a secondary school and other community facilities as appropriate.
- A high proportion of the garden community will comprise green infrastructure including a new country park to the east of site.
- Appropriate and sustainable long term governance and stewardship arrangements for the new garden community including provision for management and maintenance of the public realm and community assets.

2.29 A masterplan framework setting out the nature, form and boundary of the new community will be undertaken as described above for Policy SP9. The masterplan will include the following key components:

- A package of measures will be introduced to encourage smarter transport choices to meet the needs of the new community and maximise the opportunities for sustainable travel including the provision of a network of footpaths, cycleways and bridleways to enhance permeability within the site and to access the adjoining area.
- Foot and cycle ways shall be provided throughout the development, linking the site to Braintree town through the existing Flitch Way linear country park.
- A network of green infrastructure will be provided within the garden community including a community park, allotments, a new country park provided at the east side of the community, the provision of sports areas with associated facilities and play facilities.
- Provision of improvements to waste water treatment and off-site drainage improvements.
- Provision, management and on-going maintenance of sustainable surface water drainage measures to control the risk of flooding on site and which will reduce the risk of flooding to areas downstream or upstream of the development.
- Protection and/or enhancement of heritage and biodiversity assets within and surrounding the site including Great Saling Hall conservation area and areas of deciduous woodland within and adjoining the site.
- Provision of appropriate design and infrastructure that incorporates the highest standards of innovation in technology to reduce impact of climate change, water efficiency (with the aim of being water neutral in areas of serious water stress), and sustainable waste / recycling management facilities.
- Appropriate and sustainable long-term governance and stewardship arrangements for the new garden community including provision for long-term management and maintenance of the public realm and community assets.

3 Methodology

3.1 HRA Screening of the North Essex Authorities Shared Strategic Section 1 Local Plan has been undertaken in line with current available guidance and to meet the requirements of the Habitats Regulations. The tasks that have been undertaken during the Screening Stage of this HRA are described in detail below.

Scope of the HRA Screening

3.2 This HRA Screening Report only relates to the North Essex Authorities Shared Strategic Section 1 Local Plan, although potential for Likely Significant Effects in-combination with policies specific to the Section 2 Local Plans is assessed (see below).

Identification of European sites which may be affected by the Strategic Section 1 Local Plan

3.3 In order to initiate the search of European sites that could potentially be affected by a Local Plan, it is established practice in HRAs to consider European sites within the local planning authority area covered by the Local Plan, and also within a buffer distance of 10km to 20km.

3.4 A distance of 20km was used to identify European sites likely to be affected by impacts relating to the Section 2 Local Plans, and therefore this distance was applied to the HRA Screening of North Essex Authorities Strategic Section 1 Local Plan. This was deemed sufficient to ensure all European sites that could potentially be affected by development proposed within the Section 1 Local Plans are included in the assessment.

3.5 European sites within 20km of the NEAs are shown in **Figure 3.1** and comprise the following:

- Essex Estuaries SAC.
- Hamford Water SAC, SPA and Ramsar site.
- Stour and Orwell Estuaries SPA and Ramsar site.
- Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar site.
- Outer Thames Estuary SPA.
- Abberton Reservoir SPA and Ramsar site.
- Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site.
- Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar site.
- Deben Estuary SPA and Ramsar site.
- Alde-Ore-Estuary SPA and Ramsar site.
- Alde, Ore and Butley Estuaries SAC.
- Orfordness – Shingle Street SAC.
- Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar site.
- Sandlings SPA
- Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site.
- Staverton Park and The Thicks, Wantisden SAC.

- Breckland SPA
- Devil's Dyke SAC

HRA Screening of the North Essex Authorities Strategic Part 1 for Local Plans

Figure 3.1: European sites within 20km of the North Essex Authorities

Braintree, Colchester and Tendring Districts

Surrounding Local Authorities

20km from Districts

European Sites

SAC

SPA

Ramsar

Map Scale @ A3: 1:335,000

LUC

CB:Goosen_V EB:Goosen_V LUCLON FIG3_1_CombinedDistricts_European_sites_within_20km_A3L 09/05/2017 Source: JNCC, OS

Potential impacts of the Shared Strategic Section 1 Local Plan on European sites

3.6 **Table 3.1** below sets out a broad range of potential impacts that development and associated activities may have on European sites.

Table 3.1: Potential impacts and activities adversely affecting European sites

Broad categories and examples of potential impacts on European sites	Examples of activities responsible for impacts
Physical loss • Removal (including offsite effects, e.g. foraging habitat) • 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 Mine collapse
Physical damage • Fly tipping • 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
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	Water abstraction Drainage interception (e.g. reservoir, dam,

Broad categories and examples of potential impacts on European sites	Examples of activities responsible for impacts
• Flooding / stormwater • Water level and stability • Water flow (e.g. reduction in velocity of surface water • Barrier effect (on migratory species)	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)

3.7 Refer to **Appendix 1** for further information relation to site specific threats and vulnerabilities for each European site, as highlighted in Natural England's Site Improvement Plans (SIPs). A review of the above in light of the susceptibilities and locations of the European sites considered in this Screening assessment identified the following impact types requiring consideration:

- Physical loss/damage (onsite and offsite).
- Non-physical disturbance.
- Non-toxic contamination
- Recreational impacts.

- Water quality and quantity.

Ecological attributes of the European sites

3.8 The designated features and conservation objectives of the European sites, together with current pressures on and potential threats, was drawn from the Standard Data Forms for SACs and SPAs and the Information Sheets for Ramsar Wetlands published on the JNCC website[12] as well as Natural England's Site Improvement Plans[13] and the most recent conservation objectives published on the Natural England website (most were published in 2014)[14].

3.9 An understanding of the designated features of each European site and the factors contributing to its integrity has informed the assessment of the potential Likely Significant Effects of the Section 1 Local Plan. This approach has been useful for informing the inter-dependencies of non-qualifying species and habitats which the qualifying species depend, as recently highlighted as a requirement by the 'Holohan' ruling.

Assessment of 'Likely Significant Effects' of Shared Strategic Section 1 Local Plan

3.10 As required under Regulation 105 of the Conservation of Habitats and Species Regulations 2017[15] an assessment of the 'Likely Significant Effects' of the Local Plan has been undertaken. 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 policy or site allocation would have a significant effect on the integrity of a European site.

Interpretation of 'Likely Significant Effect'

3.11 Relevant case law helps to interpret when effects should be considered as being likely to result in a significant effect, when carrying out a HRA of a plan.

3.12 In the Waddenzee case[16], the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats Directive (translated into Reg. 105 in the Habitats Regulations), including that:

- An effect should be considered 'likely', "if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site" (para 44).
- An effect should be considered 'significant', "if it undermines the conservation objectives" (para 48).
- Where a plan or project has an effect on a site "but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned" (para 47).

3.13 An opinion delivered to the Court of Justice of the European Union[17] commented that:

"The requirement that an effect in question be 'significant' exists in order to lay down a de minimus threshold. Plans or projects that have no appreciable effect on the site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."

[12] www.jncc.defra.gov.uk
[13] http://publications.naturalengland.org.uk/category/5458594975711232
[14] http://publications.naturalengland.org.uk/category/6490068894089216
[15] SI No. 2017/2012
[16] ECJ Case C-127/02 "Waddenzee" Jan 2004.
[17] Advocate General's Opinion to CJEU in Case C-258/11 Sweetman and others v An Bord Pleanala 22nd Nov 2012.

3.14 This opinion (the 'Sweetman' case) therefore allows for the authorisation of plans and projects whose possible effects, alone or in combination, can be considered 'trivial' or *de minimus*; referring to such cases as those "*which have no appreciable effect on the site*". In practice such effects could be screened out as having no Likely Significant Effect; they would be 'insignificant'.

Mitigation provided by the Shared Strategic Section 1 Local Plan

3.15 From the outset, in developing the Shared Strategic Section 1 Local Plan, the NEAs have been aware that key issues include the potential for impacts to European Sites as a result of recreational pressures and water quality and quantity. As a result, Section 1 includes several high level principles and specific policy commitments in relation to design and development which are likely to contribute towards mitigating potential impacts associated with the strategic growth identified in Section 1 on the integrity of European sites. Where such avoidance and mitigation measures have been provided, they have been considered at the Appropriate Assessment stage to determine whether they would enable a conclusion of no adverse effect on site integrity.

3.16 With regards to water issues, the Section 1 policies include specific reference to principles which include measures to promote environmental sustainability including addressing water efficiency. In addition, Policies SP7-10 which relate to the creation of three garden communities include reference to the provision of improvements to waste water treatment, including an upgrade to the Colchester Waste Water Treatment Plant and off-site drainage improvements. These policies also refer to the provision, management and on-going maintenance of sustainable surface water drainage measures to control the risk of flooding on site and which will reduce the risk of flooding to areas downstream or upstream of the development, and provision of appropriate design and infrastructure that incorporates the highest standards of innovation in technology to reduce the impact of climate change and water efficiency (with the aim of being water neutral in areas of serious water stress).

3.17 The Policies include a number of measures relating to the provision of open space and green infrastructure, and these are likely to form key requirements in providing alternative opportunities for recreation, thereby contributing towards relieving pressures at the European sites. Policy SP7 sets out the design principles which will underpin the creation of the three garden communities and specifies the need to create distinctive environments which relate to the surrounding environment and that celebrate natural environments and systems. It refers to the creation of a multi-functional green-grid to create significant networks of new green infrastructure including new country parks at each garden community, provide a high degree of connectivity to existing corridors and networks and enhance biodiversity.

3.18 Early iterations of this HRA report had taken into account the extent to which mitigation may be achieved through the Section 1 Local Plan during the Screening stage. However, in light of the People Over Wind CJEU judgment, this report, which supersedes previous reports, has been updated to reflect this change in case law and in particular has ensured that the assessment has not relied upon avoidance and mitigation measures at the Screening Stage, but rather considers such measures at the Appropriate Assessment stage. As mitigation measures are no longer considered or relied upon at the screening stage, this has led to a review of the conclusions previously made regarding potential likely significant effects.

3.19 In earlier screening exercises, carried out prior to the CJEU 'People Over Wind' judgment, the effect of recreational disturbance on Abberton Reservoir was ruled out at the screening stage as a result of mitigation safeguards. That was the only impact which was screened out previously as a consequence of proposed mitigation. The earlier HRA screening concluded that '*Abberton Reservoir SPA and Ramsar site, is already subject to a strong visitor management regime and the Site Improvement Plan for Abberton Reservoir states that disturbance at ground level is well controlled by Essex & Suffolk Water. In addition, the site is well managed by the Essex Wildlife Trust which implements measures to reduce and manage disturbance, such as provision of an education visitor centre, paths, screens, hides and areas which are not accessible to the public, all of which is overseen by the presence of on-sight wardening*'. In updating the HRA in light of 'People Over Wind' these measures, which are considered to represent avoidance and mitigation, were not relied upon at the screening stage, and in line with the CJEU ruling and the

precautionary principle of HRA, the potential for recreational impacts were considered at the Appropriate Assessment stage.

3.20 The effect of mitigation and avoidance measures in reducing or alleviating these impacts is now considered at the Appropriate Assessment in accordance with recent case law, as detailed in Section 6.

In-combination effects

3.21 Regulation 105 of the Amended Habitats Regulations 2017 requires an Appropriate Assessment where *"a land use plan is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with or necessary to the management of the site".* Therefore, as well as considering the likely effects of Shared Strategic Section 1 Local Plan alone on European sites, it is necessary to consider whether there may be significant effects from Section 1 in-combination with other plans or projects.

3.22 In accordance with recent guidance on HRA[18], the potential for in-combination effects need only be considered for effects of Section 1 identified as unlikely to have a significant effect alone, but which could combine with the effects of other plans and projects to produce a significant effect.

3.23 The first stage in identifying potential 'in-combination' effects involves identifying which other plans and projects in addition to the new Local Plan may affect the European sites that will be the focus of the HRA. There are a large number of plan and strategy documents which could be considered. We have focussed our attention on County, Borough and District level plans which provide for development in the NEAs and neighbouring Authorities, and reviewed the findings of any associated HRA work for these plans, where available. The National Infrastructure Planning website was also reviewed to identify projects consideration for their potential in-combination effects on the European sites scoped into this HRA and no additional relevant plans or projects were identified.

3.24 It should be noted that this HRA Screening assesses the Shared Strategic Section 1 Local Plan (i.e. not the Section 2 Local Plans). The plans and projects which were considered for their potential in-combination effects were as follows:

- The Section 2 Local Plans for Braintree DC, Colchester BC, and Tendring DC.
- Colchester Core Strategy Review 2014.
- Colchester Site Allocations 2010.
- Braintree District Local Plan Review 2005.
- Braintree District Core Strategy 2011.
- Tendring District Council Adopted Local Plan 2007.
- Babergh District Core Strategy & Policies (2011 - 2031) Local Plan.
- Ipswich District Local Plan.
- Chelmsford City Council Core Strategy.
- Suffolk Coastal District Preferred Options Site Allocations and Area Specific Policies.
- Maldon District Local Development Plan 2014-2029.
- South Cambridgeshire District Local Plan.
- St Edmundsbury Core Strategy Development Plan and Joint Development Management Policies.
- Uttlesford District Council Local Plan.
- Essex Minerals Local Plan.

[18] DTA: The Habitats Regulations Assessment Handbook: http://www.dtapublications.co.uk/handbook/browse

- Essex Waste Local Plan.
- Essex Local Transport Plan.
- Wivenhoe Neighbourhood Plan 2019.

3.25 The identification of potential in-combination effects with the above plans is set out in **Appendix 3** and assessed in **Chapter 4**.

Appropriate Assessment

3.26 The Appropriate Assessment stage of HRA focuses on those impacts judged likely at the Screening stage to have a significant effect, and seeks to conclude whether, in light of mitigation and avoidance measures, they would result in an adverse effect on the on the integrity of the qualifying features of a European site(s), 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.

4 Screening Assessment

4.1 As described in Chapter 3, a screening assessment was carried out in order to identify the 'Likely Significant Effects' of the Shared Strategic Section 1 Local Plan on the European sites within 20km. The full screening matrix, which sets out the decision making process used for this assessment can be found in **Appendix 2** and the findings are summarised below.

Screening assumptions and information used in reaching conclusions about Likely Significant Effects

4.2 During the HRA Screening stage each policy was screened individually, which is consistent with current guidance. For some types of impacts, Screening for Likely Significant Effects has been determined on a proximity basis, using GIS data to determine the proximity of potential development locations to the European sites that are the subject of the assessment. However, there are many uncertainties associated with using set distances as there are very few standards available as a guide to how far impacts will travel. Therefore, during the screening stage a number of assumptions have been applied in relation to assessing the Likely Significant Effects on European sites that may result from the Shared Strategic Section 1 Local Plan, as described below.

Physical damage / loss

4.3 Development resulting from the Shared Strategic Section 1 Local Plan will not take place in locations where direct physical damage to European sites is likely. Therefore, impacts associated with physical damage and loss of habitat is restricted to indirect effects only. Fly-tipping, which also has potential to result in physical damage to European sites, is considered unlikely because development likely to lead to increases in such activities, such as housing growth, is located sufficiently away from European sites.

4.4 Loss of offsite habitat has the potential to indirectly affect European sites where the habitats provide functionally supporting habitat upon which the qualifying features depend, for example SPA birds which rely on offsite agricultural land for feeding or roosting. Sites with increased likelihood of representing important offsite resources for qualifying bird species tend to include those which are larger, located closer to the SPA/Ramsar, and prone to flooding with a high degree of openness and an absence of negative factors such as edge features and human disturbance. Habitats located further from a European site may still be used by qualifying SPA birds but are unlikely to support numbers which would be considered significant either alone or in-combination. As a result, European sites susceptible to the indirect effects of habitat loss are likely to be restricted to those which include bird species as qualifying species, and which are located within 5km of the NEAs. These comprise:

- Abberton Reservoir SPA and Ramsar.
- Blackwater Estuary SPA and Ramsar.
- Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar.
- Stour and Orwell Estuaries SPA and Ramsar.
- Hamford Water SPA and Ramsar.
- Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar.

4.5 The Outer Thames Estuary SPA, despite being located within 5km of the NEAs, was screened out from potential effects associated with loss of habitat because it supports marine bird species which do not rely upon the terrestrial habitats which occur within the NEAs.

Non-physical disturbance (noise, vibration and light)

4.6 It has been assumed that the effects of noise, vibration and light are most likely to be significant within a distance of 500 metres. Such effects may arise during construction of new housing or employment development and are most likely to disturb bird species. As a result, these impact types only have potential to affect European sites within or adjacent to the NEAs. Nevertheless, the Section 2 Screening Assessments were able to rule out the potential for this type of impact due to the location and distance of proposed allocations from European sites and development control measures specified within policies. Therefore, there is no opportunity for impacts associated with non-physical disturbance on European sites, either alone or in-combination, and this type of effect has been screened out.

Non-toxic contamination

4.7 Habitats can be subject to non-toxic contamination, such as nutrient enrichment, changes in salinity and smothering from dust, due to industrial action, agriculture, construction and water abstraction and discharge. European sites with potential to be affected by non-toxic contamination include those located adjacent or in close proximity to development allocations proposed within the NEAs. The potential for non-toxic contamination associated with recreation, air pollution and water quality are discussed separately under these categories below. The Section 2 Screening Assessments were able to rule out the potential for this type of impact due to the location and distance of proposed allocations from European sites and development control measures specified within policies. Therefore, there is no opportunity for impacts associated with non-toxic contamination on European sites, either alone or in-combination, and this type of effect has been screened out.

Air pollution

4.8 Air pollution is most likely to affect European sites where plant, soil and water habitats are the qualifying features, but some qualifying animal species may also be affected, either directly or indirectly, by deterioration in habitat as a result of air pollution. Deposition of pollutants to the ground and vegetation can alter the characteristics of the soil, affecting the pH and nitrogen levels that can then affect plant health, productivity and species composition.

4.9 In terms of vehicle traffic, nitrogen oxides (NOx, i.e. NO and NO2) are considered to be the key pollutants. Deposition of nitrogen compounds may lead to both soil and freshwater acidification, and NOx can cause eutrophication of soils and water.

4.10 Based on the Highways Agency Design Manual for Road and Bridges (DMRB) Manual Volume 11, Section 3, Section 14 (which was produced to provide advice regarding the design, assessment and operation of trunk roads (including motorways)), it is assumed that air pollution from roads is unlikely to be significant beyond 200m from the road itself. Where increases in traffic volumes are forecast, this 200m buffer needs to be applied to the relevant roads in order to make a judgement about the likely geographical extent of air pollution impacts.

4.11 The DMRB Guidance for the assessment of local air quality in relation to highways developments provides criteria that should be applied at the Screening Stage of an assessment of a plan or project, to ascertain whether there are likely to be significant impacts associated with routes or corridors. Based on the DMRB guidance, affected roads which should be assessed are those where:

- Daily traffic flows will change by 1,000 AADT (Annual Average Daily Traffic) or more; or
- Heavy duty vehicle (HDV) flows will change by 200 AADT or more; or
- Daily average speed will change by 10 km/hr or more; or
- Peak hour speed will change by 20 km/hr or more; or
- Road alignment will change by 5 m or more.

4.12 Where significant increases in traffic is likely on roads within 200m, traffic forecast data (based on the planned level of growth) may be needed to determine if increases in vehicle traffic in the NEAs as a result of the Shared Strategic Section 1 Local Plans is likely to be significant.

4.13 It has been assumed that only those roads forming part of the primary road network (motorways and 'A' roads) are likely to experience any significant increases in vehicle traffic as a result of development (i.e. greater than 1,000 AADT). As such, where a site is within 200m of only minor roads, no significant effect from traffic-related air pollution is considered to be the likely outcome.

4.14 European sites within 200m of major roads, which may experience increases in traffic as a result of the Strategic Section 1 are:

- Stour and Orwell Estuary SPA and Ramsar - A120 at Manningtree and A137 at Harwich.

Impacts of recreation

4.15 Recreation activities and human presence can result in significant effects on European sites as a result of erosion and trampling, associated impacts such as fire and vandalism or disturbance to sensitive features, such as birds. The Shared Strategic Section 1 Local Plan provides for a total housing provision of 43,270 in the Plan period to 2033. Within this period the Garden Communities will deliver the following housing numbers:

- Tendring/Colchester Borders – 2,500 houses (out of a total up to 9,000).
- Colchester/Braintree Borders – 2,500 houses (out of a total up to 24,000).
- West of Braintree – 2,500 houses (out of a total up to 10,000).

4.16 Housing growth proposed during the plan period and will result in considerable population increase within the NEAs. Where increases in population are likely to result in significant increases in recreation at a European site, either alone or in-combination, the potential for Likely Significant Effects will require assessment.

4.17 Qualifying bird species, for which many of the European sites are designated, are particularly susceptible to recreational disturbances from walking, dog walking, angling, illegal use of off-road vehicles and motorbikes, and wildfowling. An increase in recreational pressure from development therefore has the potential to impact bird populations of SPA and Ramsar sites.

Zones of Influence

4.18 Each European site susceptible to the effect of recreation will typically have a 'Zone of Influence' (ZOI) within which increases in population would be expected to result in Likely Significant Effects. ZOIs are usually established following targeted visitor surveys and the findings are therefore typically specific to each European site (and often to specific areas within a European site). The findings are likely to be influenced by a number of complex and interacting factors and therefore it is not always appropriate to apply a generic or non-specific ZOI to a European Site. Particularly in relation to coastal European sites, which have the potential to draw large number of visitors from areas further afield.

4.19 As part of the Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS)[19] initiative for which the North Essex local authorities are involved in, visitor surveys were undertaken during the winter of 2017/18 to determine specific ZOI for all European sites along the Essex coast. The ZOI have been agreed with Natural England in respect of the following European sites and have been applied in this assessment:

- Blackwater SPA and Ramsar – 22km
- Colne Estuary SPA and Ramsar – 9.7km
- Hamford Water SPA and Ramsar – 8km
- Stour and Orwell Estuaries SPA and Ramsar – 13km
- Dengie SPA and Ramsar – 20.8
- Crouch and Roach Estuaries Ramsar and SPA – 4.5km
- Foulness Estuary SPA and Ramsar – 13km

[19] Interim advice note from Natural England on 16th October 2018

4.20 All of the European sites above, with the exception of Crouch and Roach Estuaries Ramsar and SPA and Foulness Estuary SPA and Ramsar, have ZOIs which extend into the NEAs administrative area and therefore need to be assessed for likely significant effects in relation to increased recreational pressure.

4.21 Dengie SPA and Ramsar have a ZOI of 20.8km, which extends into the NEAs. However, as these European sites are separated from the NEAs by the River Blackwater, the distance that visitors would need to travel to visit the SPA and Ramsar would be much greater than 20.8km and would be unlikely to be affected by recreational pressure from increased housing in the NEA. These European sites were therefore screened out of the assessment.

4.22 Essex Estuaries lies within several SPA and Ramsar sites including Colne Estuary SPA and Ramsar (9.7km), Blackwater Estuary SPA and Ramsar (22km), Dengie SPA and Ramsar (20km), Crouch and Roach Estuaries SPA and Ramsar (4.1km) and Foulness Estuary SPA and Ramsar (13km). The respective ZOIs for each SPA and Ramsar have been applied to the Essex Estuaries SAC. More detail is provided in the Screening Assessment below.

4.23 Other European sites were assessed on a site by site basis and the findings were considered as part of the Section 2 HRA Screening Assessments. A general ZOI of 8km was applied to these sites where existing visitor survey data was not available. This distance is considered precautionary and appropriate because, given the abundance, accessibility and proximity of similar sites within and adjacent to the NEAs, the contribution of the Shared Strategic Section 1 Local Plan towards recreational pressures on sites beyond this distance is considered unlikely.

4.24 Abberton Reservoir SPA and Ramsar lies within NEA boundary and whilst Natural England has confirmed that this site can be screened out in terms of recreational disturbance due to the distance and success of existing visitor management regimes, it has been included for assessment for likely significant effects in relation to increased recreational pressure in accordance with the precautionary principle of HRA.

4.25 Due to the proximity of the Outer Thames Estuary SPA within the NEAs, there is potential for increased recreation from water-based activities to impact the qualifying bird species of the SPA, which are dependent on the marine habitat of the SPA and this site has therefore been screened into the assessment for consideration of recreational impacts.

4.26 Whilst for Deben Estuary SPA and Ramsar is situated considerably further than 8km in terms of travel distance, and separated from the NEAs by other large estuary sites. Due to these factors, this site was screened out of the assessment in relation to recreational pressures.

Water quantity and quality

4.27 An increase in demand for water abstraction and treatment resulting from the growth proposed in the Local Plan could result in changes in hydrology at European sites. Depending on the qualifying features and particular vulnerabilities of the European sites, there could be a Likely Significant Effect, for example due to changes in environmental or biotic conditions, water chemistry and the extent and distribution of preferred habitat conditions.

4.28 An increased demand for water supply and treatment has the potential to significantly affect European sites with hydrological connectivity to proposed development within the NEAs as a result of changes in water quantity and quality. As a result, the potential for Likely Significant Effects in relation to water will require consideration for the following European sites:

- Abberton Reservoir SPA and Ramsar.
- Blackwater Estuary SPA and Ramsar.
- Colne Estuary SPA and Ramsar.
- Essex Estuaries SAC.
- Hamford Water SAC.
- Hamford Water SPA and Ramsar.
- Stour and Orwell SPA and Ramsar.

Summary of Screening assumptions

4.29 **Table 4.1** below summarises the Screening assumptions that are being applied to the HRA of the Local Plan. Where certain types of effects are screened out in **Table 4.1**, they do not need to be considered further and are not referred to in the Screening matrix in **Appendix 3**.

Table 4.1: Summary of Screening assumptions

	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic Contam-ination	Air pollution	Impacts of recreation	Water quantity and quality
Essex Estuaries SAC	Screened out	Screened out	Screened out	Screened out	Screened in	Screened in
Hamford Water SAC	Screened out	Screened out	Screened out	Screened out	Screened in	Screened in
Hamford Water SPA and Ramsar	Screened in	Screened out	Screened out	Screened out	Screened in	Screened in
Stour and Orwell Estuaries SPA and Ramsar	Screened in	Screened out	Screened out	Screened in	Screened in	Screened in
Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar	Screened in	Screened out	Screened out	Screened out	Screened in	Screened in
Outer Thames Estuary SPA	Screened out	Screened out	Screened out	Screened out	Screened in	Screened out
Abberton Reservoir SPA and Ramsar	Screened in	Screened out	Screened out	Screened out	Screened in	Screened in
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and	Screened in	Screened out	Screened out	Screened out	Screened in	Screened in

	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic Contam-ination	Air pollution	Impacts of recreation	Water quantity and quality
Ramsar						
Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar	Screened in	Screened out	Screened out	Screened out	Screened out	Screened out
Deben Estuary SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Alde–Ore Estuary SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Alde, Ore and Butley Estuaries SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Orfordness – Shingle Street SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Sandlings SPA	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Staverton	Screened	Screened	Screened	Screened	Screened	Screened

	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic Contam-ination	Air pollution	Impacts of recreation	Water quantity and quality
Park and The Thicks, Wantisden SAC	out	out	out	out	out	out
Breckland	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Devil's Dyke SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out

HRA Screening Assessment

4.30 As described in Chapter 3, a Screening Assessment was carried out in order to identify the potential for Likely Significant Effects of the NEAs' Shared Strategic Section 1 Local Plan on the European sites screened in above, either alone or in-combination with other plans and projects. The results of the Screening Assessment are detailed on a site by site basis below and incorporate an assessment of Likely Significant Effects in-combination with other plans and projects identified in **Appendix 3**.

In-combination effects

4.31 As described in Chapter 3, a review was undertaken of other plans and projects which could lead to Likely Significant Effects on European sites when considered in combination with the Strategic Section 1 Local Plan, particularly in light of the proposed housing growth which provides for 43,270 net additional homes in total for the three authorities. A review of the HRAs of neighbouring local plans was undertaken and the findings are summarised **Appendix 3**. These findings have been fully considered in the conclusions reached below.

Initial Screening of Strategic Section 1 Policies

Significant effects unlikely

4.32 The following policies would not result in Likely Significant Effects because they set out criteria relating to development proposed under other policies, or they seek to protect the natural environment, or where they may result in some development, it would be located away from sensitive European sites and would not be expected to contribute significantly to factors with potential to affect European sites:

- SP1 – Presumption in favour of Sustainable Development.
- SP5 – Infrastructure and Connectivity.
- SP6 – Place Shaping Principles.

Significant effects likely or uncertain

4.33 Policies likely to increase pressures on European sites, particularly in relation to recreation and water issues, and for which the potential for Likely Significant Effects are predicted, or in line with a precautionary approach cannot be ruled out despite initial high-level policy safeguards and mitigation, included the following

- SP2 – Spatial Strategy for North Essex.
- SP3 – Meeting Housing Needs.
- SP4 – Providing for Employment and Retail.

- SP7 – Development and Delivery of New Garden Communities in Essex.
- SP8 – Tendring/Colchester Boarders Garden Community.
- SP9 – Colchester/Braintree Boarders Garden Community.
- SP10 – West of Braintree Garden Community.

Essex Estuaries SAC

Recreation

4.34 The SAC encompasses the Colne Estuary which lies between the southern parts of Colchester Borough and Tendring District. The SAC is subject to a range of land and water-based activities, including walking, fishing and water sports. Negative effects associated with these activities are primarily related to disturbance associated with the qualifying bird species of the Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar site, which is concurrent with the SAC over much of this area. However, the coastal and estuarine habitats of the SAC may also be affected by factors associated with human access such as off-road vehicle use, erosion, fire, trampling and vandalism, but the nature of the habitat types present is such that their susceptibility to recreational disturbance is limited, at least to some extent, by their inaccessible nature. In addition, the presence of permissive footpaths and well-structured public access is likely to direct people away from sensitive habitat types within the SAC, such as Atlantic salt meadows.

4.35 The SAC is also sensitive to the effects of water-based recreation, particularly through the erosion of saltmarsh habitat associated with the wash of motorised watercraft such as jet skis. This was raised as a particular concern by Natural England during ongoing consultation as part of this assessment.

4.36 The SAC is comprised of a series of sites, including Colne Estuary National Nature Reserve (NNR), Colne Point Nature Reserve and Colne Estuary SSSI, which are managed by Natural England and the Essex Wildlife Trust. Management measures in place at the NNR and Nature Reserve, which are likely to minimise disturbance and damage to the SAC, include the use of restricted access to permit holders at Brightlingsea Marshes, Essex Wildlife Trust members only at Colne Point Nature Reserve, and prohibited access to dogs at Colne Point Nature Reserve. These measures are likely to contribute towards reducing the impacts of recreational disturbance but it is unclear whether these measures are actively enforced.

4.37 As part of the Essex Coast RAMS, specific visitor surveys were undertaken to inform the ZOI of the SAC. Essex Estuaries SAC overlaps with several SPA and Ramsar sites including Colne Estuary SPA and Ramsar (9.7km), Blackwater Estuary SPA and Ramsar (22km), Dengie SPA and Ramsar (20km), Crouch and Roach Estuaries SPA and Ramsar (4.1km) and Foulness Estuary SPA and Ramsar (13km). The respective ZOIs for each SPA and Ramsar have been applied to the SAC. These ZOIs encompass much of Colchester, Tendring and Braintree and therefore population increases associated with housing growth have the potential to increase visitor pressures at the Essex Estuaries SAC.

4.38 A review of other plans and projects and associated HRA findings, identified that the HRAs of the Braintree Section 2 Local Plan, Colchester Section 2 Local Plan and Tendring Section 2 Local Plan each identified the potential for Likely Significant Effects on the Essex Estuaries SAC as a result of in-combination effects with one another, and with the Strategic Section 1 Local Plan. The Strategic Section 1 Local Plan includes the overall quantum of housing and population growth across all three North Essex Authorities and therefore the Appropriate Assessment will fully consider the in-combination effect of these authorities as a result of recreational impacts.

4.39 Despite the limited susceptibility of several of the SAC habitats to recreational pressure, there is a level of uncertainty as to whether Likely Significant Effects will occur as a result increased recreational pressure associated with proposed development within the Shared Strategic Section 1 Local Plan. **Therefore in line with a precautionary approach, further assessment is required at the Appropriate Assessment stage to determine whether increased recreational pressures associated with the Shared Strategic Section 1 Local Plan would be likely to adversely affect the integrity of the SAC. It is anticipated that further dialogue with Natural England will be required at the Appropriate Assessment stage to develop the necessary mitigation strategy and safeguards to ensure no adverse effect on integrity.**

Water quantity and quality

4.40 The SAC supports tidal and estuarine habitats, including mudflats, sandflats, Atlantic salt meadows and estuarine habitat. These habitats are dependent on water and are therefore likely to be vulnerable to changes in water quantity and quality. An increase in demand for water and water treatment from development within the Local Plan therefore has the potential to significantly affect qualifying features of the SAC.

4.41 The Haven Gateway Water Cycle Study (HGWCS) was undertaken in 2009 by the Haven Gateway Partnership to examine potential issues arising from increased demand for water supply and wastewater discharge as a result of development in a number of local authorities, including the NEAs.

4.42 In regards to water quantity the study found that the sub-region water supply zone supported a number of water abstraction licences of which some were not fully utilised with a surplus of 66.5Ml/d identified when the licensed abstraction volume (CAMS) was compared against the average volume abstracted. The Lower Colne forms part of the SAC; however the study confirmed that there are no known issues in relation to water capacity and supply at the abstraction site at this location. As a result, the Shared Strategic Section 1 Local Plan will not result in Likely Significant Effects on the SAC as a result of changes in water quantity.

4.43 The Colchester Borough HRA Screening of the Section 2 Local Plan confirmed that the new draft Water Cycle Study 2016 found that Colchester Water Recycling Centre (WRC) does not have sufficient capacity to accept all growth within the plan period however it also concluded that detailed assessments demonstrated that improvements to Colchester WRC are possible within the limits of conventionally applied technology to ensure that increased wastewater flow discharge does not impact on the current quality of the receiving watercourses or their associated ecological sites and also meet legislative requirements for watercourse.

4.44 Two further WRC were identified as likely to exceed consented discharge levels into areas within and near to the SAC. Jaywick WRC, which discharges into the North Sea adjacent to the SAC, has already exceeded capacity. The study suggests further development is directed to locations that can use neighbouring WRC's such as St Osyth and Clacton. A number of developments, including two mixed use developments and three housing allocations are proposed in Jaywick catchment area. An increase in development within the catchment area has the potential to result in Likely Significant Effects in relation to water pollution.

4.45 Brightlingsea WRC was also predicted to exceed capacity levels as a result of increased employment and housing growth and to have less than 20% capacity as a result of increased housing. Further housing increases within the NEAs therefore has the potential to place further demands on waste water treatment requirements.

4.46 The new Colchester /Tendring Boarders Garden Community (policy SP8) is likely to be located within the catchment of the River Colne and, whilst this policy includes design principles in relation to water quality, for example the provision of improvements to waste water treatment including an upgrade to the Colchester Waste Water Treatment Plant and off-site drainage improvements, it is currently unclear whether these measures will be sufficient to avoid potential Likely Significant Effects on the Essex Estuaries SAC.

4.47 Given the above information, **further assessment is required at the Appropriate Assessment stage, including consultation with the Environment Agency and water companies, together with a detailed review of potential mitigation and safeguard measures, to determine whether the Shared Strategic Section 1 Local Plan would be likely to result in adverse effects on site integrity as a result of changes in water quality**.

Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar

Physical loss and damage

4.48 The Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar are located between Colchester (to the west) and Tendring (to the east) and much of the site boundary is concurrent with the Essex Estuaries SAC. No development is proposed within the boundaries of the SPA and Ramsar site and it will therefore not be affected by onsite physical loss and damage.

4.49 Unlike the Essex Estuaries SAC, the SPA and Ramsar site support transient species that use offsite habitat. This includes species such as golden plover and dark-bellied brent goose, which may rely on offsite pastures and arable fields. As a result, there is potential for physical loss and damage to occur to offsite habitats of importance to qualifying bird species. It is not expected that development will result in fragmentation or severance of habitats given the allocations within the NEAs are proposed within or adjacent to existing settlements. However, the loss of arable and pasture may reduce the extent of foraging and loafing habitat upon which qualifying birds depend. Preferred examples of offsite foraging habitat for qualifying bird species would typically be expected to include larger fields located close to the estuary, and prone to flooding, where levels of existing disturbance are low, and which support a degree of openness and connectivity to the estuary.

4.50 Notable housing and employment allocations within the NEAs, including the Garden Communities, are typically located several kilometres from the Colne SPA and Ramsar site and therefore, alone, are unlikely to affect populations of qualifying birds through loss of offsite habitat. Nevertheless, there is currently a lack of evidence to determine the importance of offsite functional land. As a result, further assessment of the site allocations within the NEAs is recommended at the Appropriate Assessment stage to determine the potential for the Section 1 Local Plan to result in adverse effects on integrity. The assessment would seek to determine the suitability of offsite habitat based on a number of parameters, for example including size, proximity to the SPA, and the presence or absence of negative factors.

4.51 **In summary, the loss of offsite habitat as a result of housing and employment development within the Shared Strategic Section 1 Local Plan has the potential to result in Likely Significant Effects on the qualifying SPA/Ramsar bird species as a result of loss of foraging habitat upon which they depend, and will therefore require further consideration at the Appropriate Assessment stage to determine whether the loss of habitat would adversely affect site integrity, either alone or in-combination.**

Recreation

4.52 The SPA and Ramsar site are subject to the same land and water-based activities as Essex Estuaries SAC. These activities mentioned above are considered a key vulnerability to qualifying bird species of the SPA and Ramsar site as a result of direct disturbance to qualifying bird species and damage to features of importance to these species, such as feeding and roosting sites.

4.53 Damage from trampling is also considered a potential threat to qualifying plant species of the Ramsar site. However the likelihood of this occurring is limited to some extent by a lack of accessibility to key habitats, such as saltmarsh, as a result of difficult terrain and frequent flooding. The provision of permissive footpaths adjacent to pastures and agricultural fields was identified using OS mapping and aerial photography, and it is likely that the footpaths would limit disturbance to small areas of the European site.

4.54 The site is also sensitive to the effects of water-based recreation, particularly through direct disturbance to roosting and feeding bird species, and via the erosion of saltmarsh habitat upon which they depend as a result of the wash of motorised watercraft such as jet skis. This was raised as a particular concern for the Colne Estuary SPA/Ramsar by Natural England during ongoing consultation as part of this assessment.

4.55 Measures have been implemented by Natural England and the Essex Wildlife Trust who manage the Colne Estuary NNR and Colne Point Nature Reserve, which lie within the SPA and Ramsar site, to restrict access to permit holders only at Brightlingsea Marshes and Essex Wildlife Trust members only at Colne Point Nature Reserve. Dog walking is also prohibited at Colne Point Nature Reserve, which supports an important breeding site for little terns. These measures are likely to contribute towards reducing the impacts of recreational disturbance on the SPA/Ramsar but it is unclear whether these measures are actively enforced and to what extent they are effective.

4.56 Following targeted visitor surveys undertaken as part of the Essex Coast RAMS in the winter of 2017/18, a ZOI of 9.7km was identified and has been applied in this assessment. This ZOI encompasses strategic allocations with Tendring and Colchester and as a result population increases associated with provision of 43,765 houses in the NEAs, as specified in the Shared

Strategic Section 1 Local Plan, has the potential to increase visitor pressures at the Colne Estuary SPA and Ramsar site.

4.57 A review of other plans and projects and associated HRA findings, identified that the HRAs of the Braintree Section 2 Local Plan, Colchester Section 2 Local Plan and Tendring Section 2 Local Plan each identified the potential for Likely Significant Effects on the Colne Estuary SPA/Ramsar as a result of in-combination effects with one another, and with the Strategic Section 1 Local Plan. The Strategic Section 1 Local Plan includes the overall quantum of housing and population growth across all three North Essex Authorities and therefore the Appropriate Assessment will fully consider the in-combination effect of these authorities as a result of recreational impacts.

4.58 **In summary, there is potential for Likely Significant Effects to occur as a result of recreational pressure associated with Shared Strategic Section 1 Local Plan. Therefore, in line with a precautionary approach, further assessment is required at the Appropriate Assessment stage to determine whether increased recreational pressures associated with the Shared Strategic Section 1 Local Plan would be likely to adversely affect the integrity of the SPA and Ramsar**. **It is anticipated that further dialogue with Natural England will be required at the Appropriate Assessment stage to develop the necessary mitigation strategy and safeguards to ensure no adverse effect on integrity, either alone or in-combination**.

Water quantity and quality

4.59 The Colne SPA and Ramsar site support breeding little tern, overwintering water birds, estuarine habitats including saltmarsh, and scarce plants and invertebrates. These qualifying features are dependent on water and are therefore likely to be vulnerable to changes in water quantity and quality. An increase in demand for water and water treatment from development within the Section 1 would have potential to result in significant effects on the SPA and Ramsar site.

4.60 The Haven Gateway Water Cycle Study (HGWCS) was undertaken in 2009 by the Haven Gateway Partnership to examine potential issues arising from increased demand for water supply and wastewater discharge as a result of development in a number of local authorities, including the NEAs.

4.61 The study found that the sub-region water supply zone supported a number of water abstraction licences of which some were not fully utilised with a surplus of 66.5Ml/d identified when the licensed abstraction volume (CAMS) was compared against the average volume abstracted. The Lower Colne forms part of the SAC. However, the study confirmed that there are no known issues in relation to water capacity and supply at the abstraction site at this location. As a result, the Shared Strategic Section 1 Local Plan will not result in Likely Significant Effects on the SPA or Ramsar as a result of changes in water quantity.

4.62 The Colchester Borough HRA Screening of the Section 2 Local Plan reported that the draft Water Cycle Study found that Colchester Water Recycling Centre does not have sufficient capacity to accept all growth within the plan period. However, it also concluded that detailed assessments demonstrated that improvements to Colchester WRC were possible within the limits of conventionally applied technology to ensure that increased wastewater flow discharge does not impact on the current quality of the receiving watercourses or their associated ecological sites and also meet legislative requirements for watercourse.

4.63 Two further WRC's were identified as likely to exceed consented discharge levels into areas within and near to the SAC. Jaywick WRC, which discharges into the North Sea adjacent to the SPA/Ramsar, has already exceeded capacity. The study suggests further development is directed to locations able to rely on neighbouring WRC's, such as St Osyth and Clacton. A number of developments, including two mixed use developments and three housing allocations are proposed in Jaywick catchment area. An increase in development within the catchment area therefore has the potential to result in Likely Significant Effects in relation to water pollution.

4.64 Brightlingsea WRC is predicted to exceed capacity levels as a result of increased employment and housing growth and to have less than 20% capacity as a result of increased housing. Further housing increases within the NEAs therefore has the potential to place further demands on waste water treatment requirements.

4.65 The new Colchester/Tendring Boarders Garden Community (policy SP8) is likely to be located within the catchment of the River Colne. Whilst this policy includes design principles in relation to water quality, for example the provision of improvements to waste water treatment including an upgrade to the Colchester Waste Water Treatment Plant and off-site drainage improvements, it is currently unclear whether these measures will be sufficient to avoid potential Likely Significant Effects on the Colne Estuary SPA and Ramsar.

4.66 **Given the above information, further assessment is required at the Appropriate Assessment stage, including consultation with the Environment Agency and water treatment companies together with a detailed review of potential mitigation and safeguard measures, to determine whether the Shared Strategic Section 1 Local Plan would be likely to result in adverse effects on the integrity of the Colne Estuary SPA and Ramsar site as a result of changes in water quality, either alone or in-combination**.

Hamford Water SAC

Recreation

4.67 The SAC supports populations of Fisher's estuarine moth, which is reliant on coastal grassland habitat, and in particular areas of lowland neutral grassland which support the food plant hog's fennel *Peucedanum officinale*. Key vulnerabilities to this species from recreational impacts include damage and degradation of habitat from walking/dog walking and associated nutrient enrichment, in addition to erosion from boat wash and illegal use of motor vehicles.

4.68 Following targeted visitor surveys undertaken as part of the Essex Coast RAMS in the winter of 2017/18, a ZOI of 8km was identified and has been applied in this assessment. Given the location of the SAC along the east coast of Tendring, impacts to the SAC from recreation are therefore likely to be associated with and limited housing growth in Tendring only. Such housing growth may increase the recreational pressures described above.

4.69 Key areas of the SAC of importance for the qualifying feature, such as Skipper's Island, are largely inaccessible to the public, many comprising isolated islands or areas fenced and managed by the Essex Wildlife Trust to restrict access to public and permissive footpaths only. In addition, the distribution of footpaths is restricted to the south and north edge of the SAC, away from key habitats for the Fisher's estuarine moth species. A review of relevant component SSSIs indicates that areas of lowland grassland of importance for Fisher's estuarine moth are currently in favourable condition and the extent of hog's fennel, the key larval food plant, have increased.

4.70 A review of other plans and projects and associated HRA findings did not identify any which were predicted to result in Likely Significant Effects on Hamford Water SAC, either alone or in-combination, and no in-combination effects are predicted.

4.71 **As a result of the above, increased population associated with the housing growth proposed within the Shared Strategic Section 1 Local Plan is considered unlikely to result in significant effects on the Fisher's estuarine moth, either alone or in-combination**.

Water quantity and quality

4.72 The SAC supports the qualifying Fisher's estuarine moth, which is reliant on low lying coastal grassland habitat for food and egg laying. A key threat to the SAC is flooding associated with rising sea levels and deteriorating sea defences. However, none of the policies within the Section 1 Local Plan will result in increases in sea level rise or changes which would compromise flood defences. In addition, there is no direct hydrological connectivity between key site allocations and the SAC, and the HGWCS identified no abstraction sites, or WRC's predicted to exceed capacity or be within 20% of exceeding consented levels, which discharge into or near to the SAC.

4.73 As a result, the Shared Strategic Section 1 Local Plan will not result in changes in water quality or quantity with potential to significantly affect the habitats upon which Fisher's estuarine moth depends. **No Likely Significant Effects to the Hamford Water SAC are predicted in relation to water quantity and quality either alone or in-combination with other plans or projects.**

Hamford Water SPA and Ramsar site

Physical loss and/or damage

4.74 The Hamford Water SPA and Ramsar is situated along the eastern coast of Tendring District. No development is proposed within the boundaries of the SPA and Ramsar site and it will therefore not be affected by onsite physical loss and damage.

4.75 The site supports transient species that use offsite habitat such as golden plover and dark-bellied brent goose, which may rely on offsite pastures and arable fields for foraging. As a result, there is potential for physical loss and damage to occur to offsite habitats of importance to qualifying bird species. It is not expected that development will result in fragmentation or severance of habitats given the allocations within the NEAs are proposed within or adjacent to existing settlements. However, the loss of arable and pasture may reduce the extent of foraging and loafing habitat upon which qualifying birds depend. Preferred examples of offsite foraging habitat for qualifying bird species would typically be expected to include larger fields located close to the estuary, and prone to flooding, where levels of existing disturbance are low, and which support a degree of openness and connectivity to the estuary.

4.76 Notable housing and employment allocations within the NEAs, including the three Garden Communities are typically located several kilometres from Hamford Water SPA and Ramsar site, and therefore alone these sites are unlikely to be important in maintaining populations of qualifying birds. Nevertheless, there is currently a lack of evidence to determine the importance of offsite functional land for qualifying birds. As a result, further assessment of the site allocations within the NEAs is recommended as part of the Appropriate Assessment of the Shared Strategic Section 1 Local Plan, to determine the potential for adverse effects on integrity. The assessment would seek to determine the suitability of offsite habitat based on a number of parameters, for example including size, proximity to the SPA, and the presence or absence of negative factors.

4.77 In summary, the loss of offsite habitat as a result of housing and employment allocations within the NEAs, including the Tendring and Colchester Borders Garden Community in-combination with housing allocations specified within the Tendring Section 2 Local Plan, including at Dovercourt, Walton-on-the-Naze, and Thorpe-le-Soken, has the potential to result in Likely Significant Effects on the qualifying SPA/Ramsar bird species as a result of loss of foraging habitat upon which such bird species may depend. **Likely Significant Effects cannot be ruled out and therefore the potential for the loss of offsite habitat to adversely affect site integrity, either alone or in-combination, will require further consideration at the Appropriate Assessment stage**.

Recreation

4.78 Hamford Water SPA and Ramsar support breeding little terns and a range of overwintering bird species. Key vulnerabilities to these species include direct disturbance to the birds and damage to features of importance, such as feeding and roosting sites from activities, such as walking/dog walking, sailing, kayaking and other water sports, as well as unauthorised access on foot, from boats and by quad bike/motorbike.

4.79 As described above for Hamford Water SAC, visitor surveys were undertaken by Colchester Borough Council in 2011 and 2012 at Hamford Water. The surveys found that access was restricted to the site via permissive footpaths and The Naze was the only access point with car parking facilities. The majority of visitors to the site were from the local area travelling 0-8km to the site.

4.80 Based on the findings above, an 8km Zone of Influence has been applied to identify housing allocations likely to affect the SAC through increased recreational pressures. Due to the lack of parking facilities only those allocations within 8km of Kirby Quay and The Naze are likely to contribute to increased recreation. Therefore, the majority of housing growth proposed within the NEAs, including the Garden Communities, is unlikely to contribute to potential Likely Significant Effects.

4.81 Although, recreational pressures at the site are currently low, as confirmed by Natural England, there is uncertainty as to whether increased housing growth in the east of Tendring is likely to impact qualifying bird species of the SPA and Ramsar site. This is particularly the case for water-based activities, which Natural England have highlighted as a threat to the site and have indicated

as one of the causes for unfavourable conditions. This includes damage to inter-tidal habitat at moorings in Walton-on-the-Naze.

4.82 A review of other plans and projects and associated HRA findings, identified that the HRAs of the Braintree Section2 Local Plan and Colchester Section 2 Local Plan concluded no Likely Significant Effect on Hamford Water SPA/Ramsar, and therefore there is no opportunity for significant effects in-combination with the Strategic Section 1 Local Plan.

4.83 The HRA of the Tendring Section 2 Local Plan identified the potential for Likely Significant Effects on the Hamford Water SPA/Ramsar as a result of in-combination effects with the Strategic Section1 Local Plan. The Strategic Section 1 Local Plan includes the overall quantum of housing and population growth across all of Tendring, and therefore the Appropriate Assessment will fully consider the in-combination effect described above as a result of recreational impacts.

4.84 **The potential for Likely Significant Effects cannot be ruled out. Therefore, a more detailed assessment of recreational pressure is required at the Appropriate Assessment stage to identify whether adverse effects on integrity will occur to the Hamford SPA and Ramsar site, either alone or in-combination with other Local Plans. It is anticipated that further dialogue with Natural England will be required at the Appropriate Assessment stage to develop the necessary mitigation strategy and safeguards to ensure no adverse effect on integrity.**

Water quantity and quality

4.85 The SPA and Ramsar site supports qualifying bird species, which are reliant on a range of water-dependent habitats, such as salt marsh. Increased demand for water and water treatment from development within the Shared Strategic Section 1 Local Plan, therefore has the potential to adversely affect feeding habitats used by SPA and Ramsar birds, for example via habitat degradation resulting from water pollution.

4.86 A review of the HGWCS identified no abstraction sites at or near to Hamford Water with the nearest sites situated over 5km away at Stour Estuary and Tidal Deben and Orwell. The distance and lack of connectivity between the European sites and the abstraction site are considered sufficient for no Likely Significant Effects to occur in relation to water quality. In addition, no WRC discharging into Hamford Water were identified with issues relating to increased demand for treatment of sewage effluent. Site allocations within the Section/Section 2 Local Plans do not have direct hydrological connectivity with the SPA/Ramsar, and any development would expect to be compliant with minimum standards and best practice in relation to water quality, and pollution prevention measures. Therefore, no significant effect is predicted in relation to water quality.

4.87 The majority of the habitats within the SPA and Ramsar, which either support qualifying features, or represent qualifying features in their own right, are dependent upon tidal water levels rather than freshwater, and the none of the policies within the Shared Strategic Section 1 Local Plan will result in increases in sea level rise or changes which would compromise flood defences. As a result, the Section 1 Local Plan will not result in changes in water quality or quantity with potential to significantly affect the qualifying features of the SPA/Ramsar. Therefore, **no Likely Significant Effect on the Hamford Water SPA or Ramsar site is predicted in relation to water quantity or quality, either alone or in-combination**.

Stour and Orwell Estuaries SPA and Ramsar site

Physical loss / damage (offsite)

4.88 The Stour and Orwell Estuaries SPA and Ramsar sites are located along the northern coastline of Tendring District boundary. No development is proposed within the boundaries of the SPA and Ramsar site and therefore the Shared Strategic Section 1 Local Plan will not directly affect the SPA or Ramsar due to onsite physical loss and damage.

4.89 The SPA and Ramsar site support transient species that use offsite habitat. This includes species such as lapwing, dark-bellied brent goose and curlew, which may rely on offsite pastures and arable fields for feeding. As a result, there is potential for the proposed site allocations to result in physical loss and damage to offsite habitats of importance to qualifying bird species. It is not expected that development will result in fragmentation or severance of habitats given the allocations within the NEAs are proposed within or adjacent to existing settlements. However, the loss of arable and pasture may reduce the extent of foraging habitat upon which qualifying birds

depend. Preferred examples of offsite foraging habitat for qualifying bird species would typically be expected to include larger fields located close to the estuary, and prone to flooding, where levels of existing disturbance are low, and which support a high degree of openness and connectivity to the estuary.

4.90 Notable housing and employment allocations within the NEAs' Local Plans, including the three Garden Communities in the Shared Strategic Section 1 Local Plan are typically located at least several kilometres from the Stour and Orwell SPA and Ramsar site and therefore, alone, are unlikely to be important in maintaining populations of qualifying birds. Nevertheless, there is currently a lack of evidence to determine the importance of offsite functional land. As a result, further assessment of the site allocations within the NEAs is recommended as part of the Appropriate Assessment stage for the Section 1, to determine the potential for adverse effects on integrity either alone or in-combination. The assessment would seek to determine the suitability of offsite habitats based on a number of parameters, for example including size, proximity to the SPA, and the presence or absence of negative factors.

4.91 In summary, **the loss of offsite habitat as a result of proposed housing and employment development within the Shared Strategic Section 1 Local Plan, including Garden Communities under Policies SP8 and SP9, has the potential to result in Likely Significant Effects on the qualifying bird species of the Stour and Orwell Estuaries SPA and Ramsar as a result of the loss of foraging habitat. Further consideration is required at the Appropriate Assessment stage to determine whether the loss of habitat would adversely affect site integrity, either alone or in-combination**.

Air pollution

4.92 Small areas of the Stour and Orwell Estuaries SPA and Ramsar site are situated within 200m of a the strategic roads, the A137 and A120. As described in the Screening assumptions, motorways and A roads within 200m of a sensitive receptor have potential to adversely affect the habitat composition and soil chemistry of the site through deposition of airborne pollutants, particularly Nitrogen. Increased air pollution in proximity to the SPA and Ramsar site may result in the degradation of habitat types upon which the qualifying features depend. Coastal dune habitat used by breeding little terns was highlighted by Natural England's SIP as a key habitat vulnerable to nitrogen deposition.

4.93 Habitats present within 200m of the A137 and A120 include mudflats and saltmarsh. Mudflats which comprised the majority of habitat within 200m is not considered vulnerable to the effects of air pollution at these locations due to twice daily flushing by tidal waters. In addition, the effect of air pollution would not expect to noticeably affect the feeding resource of benthic invertebrates upon which SPA birds depend. The APIS website indicates that the current nitrogen deposition levels at the site are below critical load ranges of 20-30 N/ha/year. Small areas of salt marsh occur within 200m of the roads comprising c3ha in total, the majority of which is located to the north of the A120 at Harwich Port. The corresponding SSSI unit 9 is reported as being in favourable condition in this area and given the existing and established presence of extensive industrial development at this location, and the small area of saltmarsh within 200m of the road, **no Likely Significant Effects are predicted as a result of air pollution on the Stour and Orwell Estuaries SPA and Ramsar site either alone or in-combination with other Local Plans.**

Recreation

4.94 The SPA and Ramsar site supports large numbers of waterbird assemblages, as well as breeding and overwintering birds, which are vulnerable to disturbance and damage to features of importance, such as feeding and roosting sites, from a range of land and water-based activities. These include dog walking, walking, watersports, fishing, wildfowling and military training. In addition to this, there is potential for damage to qualifying plant populations of the Ramsar site to occur as a result of trampling.

4.95 Following targeted visitor surveys undertaken as part of the Essex Coast RAMS in the winter of 2017/18, a ZOI of 13km was identified and has been applied in this assessment. Housing allocations identified within the Section/Section 2 Local Plans within 13km of the SPA/Ramsar include many of those within Tendring and Colchester including the Tendring and Colchester

Borders Garden Community and the urban conurbations of Colchester and the northern part of Clacton-on-Sea.

4.96 The Orwell Estuary part of the SPA/Ramsar is not as easily accessible from the NEAs, particularly during winter when the ferry is not operational and the potential for disturbance to wetland birds is greatest, and therefore recreational impacts are likely to be focused on the Stour Estuary.

4.97 The Garden Communities include significant provision of green infrastructure and natural open space, including Country Parks and this is likely to provide strong mitigation in reducing their contribution to increases in visitor pressures at the SPA and Ramsar site. Nevertheless, the overall quantum of housing growth within the NEAs is likely to increase visitor pressures at the SPA/Ramsar, and therefore specific mitigation and appropriate policy safeguards are likely to be required to provide certainty that mitigation can prevent impacts to the integrity of the SPA and Ramsar. This is likely to require development of a Mitigation Strategy involving a multi-faceted approach at the Strategic NEA level, including a commitment to improving the management of visitors at the SPA and Ramsar site, providing appropriate green space linked to developments to reduce the desire to travel to the SPA/Ramsar, and implementing a monitoring regime to ensure feedback is provided to enable remedial measures to be implemented if there are indications that adverse effects on integrity were predicted.

4.98 Housing and associated population growth within the NEAs as a result of the Shared Strategic Section 1 Local Plan is likely to result in significant effects on the Stour and Orwell Estuaries SPA and Ramsar as a result of recreational pressure. Therefore, **further assessment is required at the Appropriate Assessment stage to determine whether the Shared Strategic Section 1 Local Plan will result in adverse effects on site integrity, either alone or in-combination. It is anticipated that further dialogue with Natural England will be required at the Appropriate Assessment stage to develop the necessary mitigation strategy and safeguards to ensure no adverse effect on integrity.**

Water quantity and quality

4.99 The SPA and Ramsar site support qualifying bird species, which are reliant on coastal and estuarine habitat. These habitats are water-dependent and are susceptible to changes in water quantity and quality. Development therefore has the potential indirectly to affect the integrity of the European sites by reducing the extent or quality of feeding resources or by changing the environmental conditions upon which habitats and species depend.

4.100 A review of the HGWCS identified a number of abstraction sites in close proximity to the SPA and Ramsar site. These included Tidal Deben and Orwell; Upper Stour; Lower Stour and Stour Estuary. Overall, no supply issues were identified in the HGWCS and as long as the water companies continue to implement their Water Resource Management Plans it is unlikely that the SPA and Ramsar site will be affected by water quantity and as a result it can be ruled out of the assessment.

4.101 Harwich and Dovercourt WRC was identified as being due to exceed capacity as a result of increased employment and housing growth. This WRC discharges 500m from the SPA and Ramsar site. A number of employment and housing developments are proposed within the water catchment area increasing demand for water treatment at the WRC. It is therefore not possible to rule out Likely Significant Effects in relation to water quality.

4.102 The HRA Screening Assessment of the Colchester Section 2 Local Plan highlighted that the new draft Water Cycle Study (WCS) 2016 identified Langham Water Recycling Centre (WRC) as being over capacity and there may be implications for receiving water bodies including the Stour. This WCS concluded that solutions are required in order to accommodate the growth to ensure that the increased wastewater flow discharged does not impact on the current quality of the receiving watercourses, their associated ecological sites and also to ensure that the watercourses can still meet with legislative requirements. The HRA concluded that this issue will require further consideration at the Appropriate Assessment stage.

4.103 In summary, **the increased demand for water treatment across the NEAs' area, particularly as a result of housing and employment development at Harwich and Dovercourt, and Langham, has the potential to result in Likely Significant Effects on the Stour and Orwell Estuaries SPA and Ramsar site as a result of changes in water quality, and therefore further consideration is required at the Appropriate Assessment stage to**

determine whether the Shared Strategic Section 1 Local Plan will result in adverse effects on integrity, either alone or in-combination.

Outer Thames Estuary SPA

Recreation

4.104 Outer Thames Estuary is designated for qualifying red-throated diver, which are reliant on marine habitats to forage over the winter. Although, red-throated divers are highly mobile during the winter and are able to use a range of marine habitats, this species tends to be faithful to their foraging sites and show a strong stress response to changes. Due to these factors there is potential for this species to be affected by increased water-based activities within the SPA as a result of increased housing within the NEA. Previous iterations of the HRA of the Shared Strategic Section 1 Local Plan ruled out the potential for Likely Significant Effects on the Outer Thames Estuary on the basis that given the extent of the SPA within the North Sea, the likelihood of birds being affected by recreational activities was negligible. Nevertheless, Natural England advised[20] that it would be "*prudent to the include the Outer Thames Estuary SPA into a revised HRA to ensure that any impacts of water based recreation can be more thoroughly considered*". **In light of Natural England's advice and in line with the precautionary principle of HRA, the effect of recreational activities on the Outer Thames Estuary SPA will be assessed at the Appropriate Assessment stage to determine whether the Section 1 Local Plan will result in adverse effects on the integrity of the SPA either alone or in-combination**.

Abberton Reservoir SPA and Ramsar site

Physical damage / loss of habitat (offsite)

4.105 Abberton Reservoir and Ramsar site includes qualifying bird species which utilise and may depend upon terrestrial habitats located offsite. For example, wigeon and teal will both utilise flooded cereal fields and short pastures for feeding, whilst golden plover often favour short pasture for feeding and large flocks often congregate in areas of importance. Whilst such areas can be located several kilometres from designated sites, those typically preferred are located closer, tend to flood and support a high degree of openness with minimal negative factors such as disturbance levels and the presence of encroaching edge features in close proximity.

4.106 The Shared Strategic Section 1 Local Plan will result in the development of land across the NEAs as a result of employment and housing allocations, including the creation of three garden communities. There is potential for the loss of large areas of short grazed pasture or arable fields to result in Likely Significant Effects as a result of a reduction in feeding resources upon which they depend. Given the abundance and distribution of such habitat types within the NEAs, **the extent to which SPA birds are dependent upon site allocations in the Local Plans Section 1 and Section 2 is unclear, but in line with a precautionary approach the potential for Likely Significant Effects cannot be ruled out at this stage and therefore further assessment will be required at the Appropriate Assessment stage**. This will likely involve a review of site allocations identified in the Section 2 Local Plans in light of the preferences of individual bird species to determine the potential importance of these allocations as offsite functional habitat, and identify whether further assessment is required.

Recreation

4.107 The SPA supports a number of overwintering waterbird species, which are vulnerable to disturbance and damage to features of importance, such as feeding and roosting sites, from a range of land and air-based activities. This is includes walking, bird watching, occasional trespassing and low-flying civilian and military aircraft. It should be noted that dog walking, which typically represents one of the most significant disturbance factors to sites designated for birds, is not permitted within the reserve.

4.108 The visitor survey completed by Colchester BC reported that 65% of the groups surveyed at Abberton during June 2013 were fairly local travelling 10 miles (c. 16km) or less to Abberton Reservoir. Just over 51% lived in Colchester Borough. 52% of visitors at Abberton Reservoir said that they visited because the site is close to home. However, only 14% of visitors to Abberton Reservoir travelled under 5 miles (8km). Nevertheless, the overall quantum of housing growth

[20] Natural England letter of 12 January 2018 (ref: EXD/002B)

has potential to increase visitor pressures at the SPA, and therefore specific mitigation and appropriate policy safeguards are likely to be required to provide certainty that mitigation can prevent impacts to the integrity of the SPA.

4.109 Housing and associated population growth within the Shared Strategic Section 1 Local Plan has potential to result in significant effects on the Abberton Reservoir SPA as a result of recreational pressure. Therefore, **further assessment is required at the Appropriate Assessment stage to determine whether the Shared Strategic Section 1 Local Plan will result in adverse effects on site integrity, either alone or in-combination.**

Water quantity and quality

4.110 The SPA and Ramsar site support water bird assemblages, which are dependent on water quantity and quality. Any changes in water quantity and quality therefore have the potential to significantly impact the European sites.

4.111 There is no direct source-path-receptor model for the transmission of factors which could affect water quality between this site and development specified within the Shared Strategic Section 1 Local Plan, therefore no changes in water quality are predicted.

4.112 The HRA of the Braintree Site Allocations and Development Management Plan noted that Abberton Reservoir was experiencing lower water levels and higher demand from public use. However, from 2009 to 2012 the Abberton Reservoir underwent an expansion scheme to meet the predicted rise in water demand. The HRA noted that Essex and Suffolk Water (ESW recently completed the expansion of Abberton Reservoir in order to cater for increasing demand. The environmental effects of this were considered in the Braintree Water Cycle Study[18], and the ESW Water Resource Management Plan[19]. The capacity of Abberton Reservoir has been increased by 58%[20]. The latest ESW Water Resource Management Plan states that the Abberton resource scheme means that the Essex Water Resource Zone is now in surplus until 2040[21]. The lowering of water levels at Abberton Reservoir is not listed as a key vulnerability or factor currently affecting the site, and given the enhanced reservoir, which has been subject to extensive study, this issue does not require further consideration in this HRA Screening assessment.

4.113 **Shared Strategic Section 1 Local Plan will not result in Likely Significant Effects as a result of water quality or quantity, either alone or in-combination with other plans or projects.**

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

Physical damage / loss of habitat (offsite)

4.114 The Blackwater Estuary SPA and Ramsar site are located along the southern coastline of the North Essex Authorities bordering the coast of Colchester Borough. No development is proposed within the boundaries of the SPA and Ramsar site and therefore the Shared Strategic Local Plan Section 1 will not affect the SPA or Ramsar due to direct physical loss and damage.

4.115 The SPA and Ramsar site support transient species that use offsite habitat. This includes species such as dark-bellied brent goose, hen harrier and golden plover, which may rely on offsite pastures and arable fields for feeding. As a result, there is potential for the proposed site allocations to result in physical loss and damage to offsite habitats of importance to qualifying bird species. It is not expected that development will result in fragmentation or severance of habitats given that the allocations within the NEAs are proposed within or adjacent to existing settlements. However, the loss of arable and pasture may reduce the extent of foraging habitat upon which qualifying birds depend. Preferred examples of offsite foraging habitat for qualifying bird species would typically be expected to include larger fields located close to the estuary, and prone to flooding, where levels of existing disturbance are low, and which support a high degree of openness and connectivity to the estuary.

4.116 Notable housing and employment allocations within the NEAs' Local Plans, including the three Garden Communities in the Shared Strategic Section 1 Local Plan, are typically located at least several kilometres from the Blackwater SPA and Ramsar site and therefore, alone, are unlikely to be important in maintaining populations of qualifying birds. Nevertheless, there is currently a lack

[21] Essex and Suffolk Water (October 2014) Final Water Resources Management Plan 2014

of evidence to determine the importance of offsite functional land for these species. As a result, further assessment of the site allocations within the NEAs' Local Plans is recommended at the Appropriate Assessment stage, to determine the potential for adverse effects on integrity either alone or in-combination. The assessment would seek to determine the suitability of offsite habitats based on a number of parameters, for example including size, proximity to the SPA, and the presence or absence of negative factors.

4.117 In summary, **the loss of offsite habitat as a result of housing and employment development proposed within the Shared Strategic Section 1 Local Plan, including the Garden Communities, has the potential to result in Likely Significant Effects on the qualifying bird species of the Blackwater Estuary SPA and Ramsar as a result of the loss of foraging habitat. Further consideration at the Appropriate Assessment stage is required to determine whether the loss of habitat would adversely affect site integrity, either alone or in-combination**.

Recreation

4.118 The SPA and Ramsar site supports large numbers of waterbirds, as well as breeding and overwintering birds, which are vulnerable to disturbance and damage to features of importance, such as feeding and roosting sites, from a range of land and water-based activities. These include dog walking, walking, watersports, fishing, wildfowling and military training. In addition to this, there is potential for damage to saltmarsh habitat which is a qualifying feature of the Ramsar site as a result of trampling and associated recreational impacts.

4.119 Visitor survey work undertaken Essex Coast RAMS has recommended a 22km ZOI for the site. This encompasses a large of Tendring, Colchester and Braintree and is therefore likely to be affected by increased recreational pressure associated with increases in visitor pressures at the SPA/Ramsar. Specific mitigation and appropriate policy safeguards are likely to be required to provide certainty that mitigation can prevent impacts to the integrity of the SPA and Ramsar.

4.120 Housing and associated population growth within the south of Colchester as a result of the Shared Strategic Section 1 Local Plan is likely to result in significant effects on the Blackwater Estuary SPA and Ramsar as a result of recreational pressure. Therefore, **further assessment is required at the Appropriate Assessment stage to determine whether the Shared Strategic Section 1 Local Plan will result in adverse effects on site integrity, either alone or in-combination. It is anticipated that further dialogue with Natural England will be required at the Appropriate Assessment stage to develop the necessary mitigation strategy and safeguards to ensure no adverse effect on integrity.**

Water quantity and quality

4.121 The SPA and Ramsar site support water birds, habitats and invertebrate species which are dependent on water levels and quality. Any changes in water quantity and quality therefore have the potential to significantly impact these European sites.

4.122 No abstraction sites were identified in the HGWCS at or in close proximity to the SPA and Ramsar site. Due to this and the absence of a source-path-receptor in terms of impacts associated with water quality and quantity it is unlikely that Likely Significant Effects will occur in relation to water related issues. In addition to this no WRC discharging water into or near to the SPA and Ramsar site exceeded or is predicted to exceed consented discharge levels.

4.123 **No Likely Significant Effects to Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site are predicted in relation to water quantity and quality either alone or in-combination with other plans or projects.**

Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar

Physical damage /loss of habitat (offsite)

4.124 Dengie SPA and Ramsar site are located approximately 3km to the south of Mersea Island and is designated for its populations of wetland birds, while the Ramsar is also designated on account of saltmarsh habitat and the presence of scarce invertebrate and plant species.

4.125 The SPA and Ramsar birds are transient species, and several will rely on offsite habitats. This includes species such as hen harrier, brent goose and lapwing which may rely on offsite pastures and arable fields for feeding. The northernmost and closest part of the SPA and Ramsar is

separated from the NEA by the Blackwater Estuary and approximately 3km of tidal waters. As a result, the potential for the Shared Strategic Section 1 Local Plan to adversely affect Dengie Marsh as a result of the loss of offsite functional habitat is greatly reduced because the reliance of birds on offsite habitats beyond this distance is likely to be low. In addition, the strategic Garden Communities, and housing locations identified in the Section 2 Local Plans are located considerably further from Dengie Marsh, with Tendring District located over 6km to the northeast and Colchester Town located approximately 13km to the north. Given the distances involved, and the abundance of habitats of greater suitability located adjacent and close to Dengie SPA/Ramsar, including open arable and pastoral fields, the importance of habitats within the NEAs is considered likely to be low for qualifying features of Dengie SPA/Ramsar.

4.126 In summary, **the loss of offsite habitat as a result of the Shared Strategic Section 1 Local Plan, is not predicted to result in Likely Significant Effects on the qualifying features of the Dengie SPA/Ramsar species, either alone or in-combination**.

Summary of Screening conclusions

4.127 **Table 4.2** below summarises the Screening conclusions reached in this HRA. Those impacts shown in grey as 'screened out' are those which were screened out in line with the Screening assumptions provided in Section 3. Impact types for which a conclusion of 'No Likely Significant Effect' (LSE) was reached are shown in green. Those potential impacts where Likely Significant Effects cannot be ruled out are shown in orange and those which these are considered in more detail at the Appropriate Assessment stage in **Section 5**.

Table 4.2: Summary of Screening Assessment

	Physical damage/loss of habitat	Non-physical disturbance	Non-toxic Contamination	Air pollution	Impacts of recreation	Water quantity and quality
Essex Estuaries SAC	Screened out	Screened out	Screened out	Screened out	LSE	LSE? (quality only)
Hamford Water SAC	Screened out	Screened out	Screened out	Screened out	No LSE	No LSE
Hamford Water SPA and Ramsar	LSE? (offsite only)	Screened out	Screened out	Screened out	LSE	No LSE
Stour and Orwell Estuaries SPA and Ramsar	LSE? (offsite only)	Screened out	Screened out	No LSE	LSE	LSE? (quality only)
Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar	LSE? (offsite only)	Screened out	Screened out	Screened out	LSE	LSE? (quality only)

	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic Contamin-ation	Air pollution	Impacts of recreation	Water quantity and quality
Outer Thames Estuary SPA	Screened out	Screened out	Screened out	Screened out	LSE?	Screened out
Abberton Reservoir SPA and Ramsar	LSE? (offsite only)	Screened out	Screened out	Screened out	LSE	No LSE
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar	LSE? (offsite only)	Screened out	Screened out	Screened out	LSE	No LSE
Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar	No LSE	Screened out	Screened out	Screened out	Screened out	Screened out
Deben Estuary SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Alde–Ore Estuary SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Alde, Ore and Butley Estuaries SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Orfordness – Shingle Street SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Foulness (Mid-Essex Coast Phase 5)	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out

	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic Contamin-ation	Air pollution	Impacts of recreation	Water quantity and quality
SPA and Ramsar						
Sandlings SPA	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Staverton Park and The Thicks, Wantisden SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Breckland	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out

5 HRA Screening Conclusion

5.1 In conclusion, the HRA Screening of the NEAs' Shared Strategic Section 1 Local Plan identified several potential Likely Significant Effects to European sites, or where Likely Significant Effects could not be ruled out. These require further consideration at the Appropriate Assessment stage to determine whether they will result in adverse effects on site integrity, and identification of mitigation measures which would ensure adverse effects on integrity are avoided and enable adoption of the Section 1 Local Plan. The Likely Significant Effects identified are summarised below:

- Essex Estuaries SAC – Water quality and impacts of recreation.
- Hamford Water SPA and Ramsar site – Loss of offsite habitat and impacts of recreation
- Stour and Orwell Estuaries SPA and Ramsar site - Water quality, loss of offsite habitat, and impacts of recreation.
- Colne Estuary SPA and Ramsar site - Water quality, loss of offsite habitat, and impacts of recreation.
- Abberton Reservoir SPA and Ramsar site - Loss of offsite habitat.
- Blackwater Estuary SPA and Ramsar site - Loss of offsite habitat, and impacts of recreation.
- Outer Thames Estuary SPA – recreational disturbance

5.2 The distribution of housing within the Shared Strategic Section 1 Local Plan has the potential to result in the loss and damage of functional habitat used by qualifying SPA/Ramsar bird species. It is recommended that at the Appropriate Assessment stage, a review of the NEA Strategic Garden Communities in the Shared Strategic Section 1 Local Plan, is undertaken to determine the potential importance of each site for SPA/Ramsar birds either alone or in-combination with the site allocations in the Section 2 Local Plans. This has been achieved by reviewing the findings of the Appropriate Assessments of the Section 2 Local Plans.

5.3 The review described above included an assessment of site specific parameters, including size, distance from SPA/Ramsar sites and component habitats. This process identified the need for any potential further requirements, such as site specific bird surveys, and informed appropriate mitigation such as a commitment to project-level HRA, and modification of policy wording to provide sufficient safeguards to ensure loss of habitat would not adversely affect the integrity of European sites.

5.4 Increased recreation from land and water-based activities, as a result of increased housing within the NEAs has the potential to cause Likely Significant Effects to European sites. Recreational pressures on coastal European sites is a complex issue and is likely to require a strategic approach across the North Essex Authorities to ensure that adverse effects on integrity can be avoided. This has been recognised by the NEAs and it is anticipated that the most appropriate platform through which to address this impact is via the Appropriate Assessment of this Strategic Section 1 Local Plan which will assess the strategic effect of the NEAs in-combination.

5.5 Initial discussions with Natural England have identified that production of a cross-authority Strategic Mitigation Strategy is likely to be required. This would set out a multi-faceted approach to mitigating recreational impacts based on accepted Zones of Influence, including i) provision of natural open space and green infrastructure at development sites, ii) increased provision of on-site visitor control methods such as provision of infrastructure, education and wardening, and iii) a commitment within both the Shared Strategic Section 1 Local Plan and the Section 2 Local Plans to include an appropriate monitoring and feedback loop to ensure that a system is in place to trigger remedial measures if monitoring identifies or predicts any significant effects.

5.6 The increased demand for water supply and treatment has the potential to result in Likely Significant Effects on European sites. It was recommended that further consultation with the

Environment Agency and water companies is required to address potential impacts in relation to water quality and whether this will result in adverse effects on the integrity of European sites. If adverse effects are predicted, the implementation of mitigation measures should be considered, including the upgrade of infrastructure and efficiency measures as required. In addition to this, a detailed review of potential mitigation and safeguard measures should be identified for potential inclusion within the Section 1 and as necessary within the corresponding Section 2 Local Plans.

5.7 The current approach being taken by the NEAs in addressing the key issues associated with strategic population growth and infrastructure developments is advocated and deemed to be the most appropriate and pragmatic approach in ensuring that the Shared Strategic Section 1 Local Plan is sound. It is anticipated that, through the iterative process of the Appropriate Assessment stage, providing key recommendations and mitigation requirements are fully developed, included within the Shared Strategic Section 1 Local Plan and/or theSection 2 Local Plans as appropriate, and can be successfully implemented, it is likely to be possible to ensure that no adverse effects on the integrity of the above sites will occur as a result of habitat loss, recreational impacts, or water related issues, either alone or in-combination.

6 Appropriate Assessment

6.1 Following the Screening stage, if Likely Significant Effects on European sites are unable to be ruled out, the plan-making authority is required under Regulation 105 of the Habitats Regulations 2017 to make an 'Appropriate Assessment' of the implications of the plan for sites, in view of their conservation objectives. EC Guidance[22] states that the Appropriate Assessment should consider the impacts of the plan (either alone or in combination with other projects or plans) on the integrity of European sites with respect to their conservation objectives and to their structure and function.

6.2 A site's integrity depends on it being able to sustain its 'qualifying features' (i.e. those Annex 1 habitats, Annex II species, and Annex 1 bird populations for which it has been designated) and to ensure their continued viability. A high degree of integrity is considered to exist where the potential to meet a site's conservation objectives is realised and where the site is capable of self-repair and renewal with a minimum of external management support.

6.3 An Appropriate Assessment has therefore been undertaken for all of the European sites within the North Essex Authorities (+20km) where Likely Significant Effects from the Shared Strategic Section 1 Local Plan were identified (or were not able to be ruled out) during the Screening stage. Potential Likely Significant Effects, either alone or in combination with other plans or projects, were identified as below.

- **Loss of offsite habitat** – Abberton Reservoir SPA/Ramsar, Blackwater Estuary SPA/Ramsar, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA/Ramsar, and Colne Estuaries SPA and Ramsar.
- **Recreational Impacts** – Essex Estuaries SAC, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA and Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar and Outer Thames Estuary SPA.
- **Water quality** – Essex Estuaries SAC, Stour and Orwell Estuaries SPA/Ramsar, Colne Estuary SPA/Ramsar.

6.4 During the Appropriate Assessment stage, a conclusion needs to be reached as to whether or not the policies or site allocations in a plan would adversely affect the integrity of a European site, either alone or in combination with other plans or projects. As stated in the EC Guidance, assessing effects on site integrity involves considering whether the predicted impacts of the plan policies (either alone or in combination) have the potential to:

- Cause delays to the achievement of conservation objectives for the site.
- Interrupt progress towards the achievement of conservation objectives for the site.
- Disrupt those factors that help to maintain the favourable conditions of the site.
- Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site.
- Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem.
- Change the dynamics of relationships that define the structure or function of the site (e.g. relationships between soil and water, or animals and plants).
- Interfere with anticipated natural changes to the site.
- Reduce the extent of key habitats or the population of key species.
- Reduce the diversity of the site.

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

- Result in disturbance that could affect the population, density or balance between key species.
- Result in fragmentation.
- Result in the loss of key features.

6.5 The conservation objectives for each European site (listed in **Appendix 1**) are generally to maintain the site's qualifying features in favourable condition. The Site Improvement Plans for each European site provide a high level overview of the issues (both current and predicted) affecting the condition of the designated features at the site(s) and outline the priority measures required to improve the condition of the features. This information has been drawn on to help to understand what is needed to maintain the integrity of each European site.

6.6 Where Likely Significant Effects were identified or considered uncertain at the Screening stage in relation to a policy in the Shared Strategic Section 1 Local Plan (i.e. those policies listed shaded red or orange in the screening matrices in **Appendix 2**), the potential impacts have been set out below and judgements made (based on the information available) regarding whether the impact will have an adverse effect on the integrity of each European site. Consideration has been given to the potential for mitigation measures to be implemented that could reduce the likelihood or severity of the potential impacts, such that there would not be an adverse effect on the integrity of the site.

Loss of offsite habitat

6.7 The HRA's of the Braintree and Colchester Section 2 Local Plans concluded that their Plans would not result in the adverse effects on European Sites as a result of the loss of offsite habitat. The Tendring Section 2 Local Plan identified Likely Significant Effects as a result of loss of offsite land for Abberton Reservoir SPA/Ramsar; Blackwater Estuary SPA/Ramsar; Hamford Water SPA/Ramsar; Stour and Orwell Estuaries SPA/Ramsar; and Colne Estuaries SPA and Ramsar.

6.8 The HRA of the Tendring Section 2 Local Plan, which in line with the People Over Wind CJEU Judgment does not rely on avoidance and mitigation measures at the Screening stage but rather considers these measures at the Appropriate Assessment stage, included a detailed desk-based assessment of the site allocations at the Appropriate Assessment stage. This identified that the majority of site allocations were considered to have low or negligible potential to support significant numbers of SPA/Ramsar qualifying bird species, either alone or cumulatively with other allocations, and were therefore discounted from further consideration in terms of offsite functional land. However, the Tendring /Colchester Borders Garden Community is identified as a strategic site allocation with potential to support lapwing and golden plover associated with the above European sites.

6.9 This allocation has factors which are likely to limit its potential importance for golden plover and lapwing, such as flight lines interrupted by urban settlements, distance from European sites, and the presence of edge features. As a result, the detailed assessment of these allocations as part of the Appropriate Assessment of the Tendring Section 2 Local Plan indicated that no single allocation is, on its own, likely to be important in maintaining the integrity of the bird populations at the Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar. These conclusions are considered valid for informing this Appropriate Assessment.

6.10 The HRA of the Tendring Section 2 Local Plan concluded that whilst the Tendring/Colchester Borders Garden Community provides suitable offsite foraging habitat for golden plover and lapwing in the form of arable fields and short grazed pasture, in isolation the importance of such sites for these species is likely to be low when compared with the extensive areas of habitat of greater suitability both within the North Essex Authorities and the wider land areas surrounding these European sites, particularly given the influence of the limiting factors described above. As a result, the potential for the loss of offsite habitat to adversely affect these species related primarily to the cumulative effect of reducing the extent of feeding areas. The likelihood of this occurring was considered low given the quality of the habitat affected and the small amount of habitat affected as a proportion of that available around each of the European sites.

6.11 Nevertheless, despite the above, uncertainty remains under the precautionary principle as to whether the loss of arable and pastoral habitat as a result of the Tendring/Colchester Borders Garden Community will, cumulatively with the loss of smaller non-strategic allocations, adversely affect the integrity of the SPA/Ramsar sites in relation to golden plover and lapwing. Given the dependency of these species on offsite arable fields and grasslands, inclusion and implementation of appropriate safeguards and mitigation will be required in the Shared Strategic Section 1 Local Plan to provide certainty that there will be no adverse effect on the integrity of the Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar. Mitigation requirements are described below.

Mitigation

6.12 In order to provide certainty that the loss of offsite functional habitat will not adversely affect the integrity of the above sites, the following safeguards are required for incorporation within the Shared Strategic Section 1 Local Plan:

- Wintering bird surveys will be required for the Tendring and Colchester Borders Garden Community as part of any project level development proposals and masterplanning, to determine the site's individual importance for golden plover and lapwing and inform mitigation proposals.
- A commitment to mitigation and phasing of the Tendring and Colchester Borders Garden Community is required within the Shared Strategic Section 1 Local Plan dependent on the findings of bird surveys. This will need to take into account the cumulative numbers of SPA birds affected as parcels of land come forward for development. In the unlikely but possible event that cumulative numbers of SPA birds affected are likely to exceed thresholds of significance (i.e. >1% of the associated European Site), appropriate mitigation in the form of habitat creation and management in perpetuity, either on-site or through provision of strategic sites for these species elsewhere, will be required. If required, mitigation will need to create and manage suitably located habitat which maximises feeding productivity for these SPA species, and such mitigatory habitat would need to be provided and fully functional prior to development which would affect significant numbers of SPA birds.

6.13 The mitigation measures provided above are considered precautionary, appropriate and effective. Given their size, each allocation would likely be capable of mitigating for their own impact on-site if necessary, and therefore the above measures have been recommended to provide certainty that the cumulative effect of habitat loss would not result in significant adverse effects.

Conclusion

6.14 **Providing that the above mitigation safeguards are incorporated into the Shared Strategic Section 1 Local Plan, and are implemented successfully, adverse effects on the integrity of the Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar, as a result of loss of offsite functionally linked habitat will be avoided.**

Recreation

6.15 The HRA Screening identified the potential for Likely Significant Effects on the following European Sites as a result of increases in recreational activities:

- Outer Thames Estuary SPA
- Abberton Reservoir SPA
- Colne Estuary SPA/Ramsar.
- Essex Estuaries SAC.
- Stour and Orwell Estuaries SPA/Ramsar.
- Hamford Water SAC/SPA/Ramsar.
- Blackwater Estuaries SPA/Ramsar.

Outer Thames Estuary SPA

6.16 The qualifying species (red throated diver and tern species) of the Outer Thames Estuary SPA are susceptible to disturbance. However, it is necessary to consider the likelihood of population growth resulting from the Shared Strategic Section 1 Local Plan resulting in an adverse effect on the integrity of the qualifying features of the SPA. The SPA comprises an area of open sea covering c.3924km2, extending over 40km from the coastline, and reaching as far north as Great Yarmouth. The boundary of this SPA is based on the foraging area of the qualifying species, and notably excludes most of the coastal water in close proximity to Tendring and Colchester.

6.17 Whilst feeding in the open sea, red throated diver and tern species are highly mobile, covering vast distances, whereas recreational boats would be expected to remain relatively close to the coast. Given the mobility of these species and the visibility afforded to them while feeding and loafing at sea they are unlikely to be disturbed by watercraft to any level approaching a risk of adverse effect on integrity, being able to easily maintain a distance they are comfortable with. Furthermore, the increase in usage of watercraft is unlikely to result in any discernible increase in the numbers, distribution or frequency of watercraft navigating these waters, particularly when considered in light of their existing usage and importance as established commercial fishing and shipping importance.

6.18 **Therefore, the Section 1 Local Plan will not result in adverse effects on the integrity of the Outer Thames Estuary SPA either alone or in-combination.**

Abberton Reservoir SPA

6.19 Abberton Reservoir SPA is located to the south of Colchester in Colchester Borough. The key threats are from ground-based recreational activities, including walking, bird watching and occasional trespassing, and air-based activities from low-flying civilian and military aircraft. It is expected that any increases in recreational pressure to the qualifying bird species of the SPA as a result of the Shared Strategic Section 1 Local Plan are only likely to occur in relation to ground-based activities.

6.20 Following a review of management at the site, it was found that the SPA is subject to a strong visitor management regime and the Site Improvement Plan for Abberton Reservoir states that disturbance at ground level is well controlled by Essex & Suffolk Water. In addition, the site is well managed by the Essex Wildlife Trust which implements measures to reduce and manage disturbance, such as provision of an education visitor centre, paths, screens, hides and areas which are not accessible to the public, all of which are overseen by the presence of on-sight wardening. Furthermore, Natural England has advised that recreational impacts on Abberton Reservoir can be ruled out.

6.21 **Based on this information, increased population growth as a result of the Shared Strategic Section 1 Local Plan is not predicted to result in adverse effects in the integrity of the SPA as a result of recreational pressure, either alone or in-combination with other plans or projects.**

Colne Estuary SPA/Ramsar

6.22 The Colne Estuary SPA and Ramsar site is located along the southwest of Tendring District and southeast of Colchester Borough. The key threat to this site relates primarily to disturbance of water birds from people and dogs, in addition to water sports such as use of jet skis and motorboats.

6.23 In general, the majority of strategic housing allocations, which are likely to represent the main source of increases in recreational visits to the SPA/Ramsar, are located several kilometres away from the Colne Estuary. As a result, the majority of additional visitors as a result of the Shared Strategic Section 1 Local Plan are likely to arrive by car, and therefore the provision of alternative open space close to home may represent a useful measure in helping to mitigate recreational impacts. This is discussed in more detail in the mitigation section below.

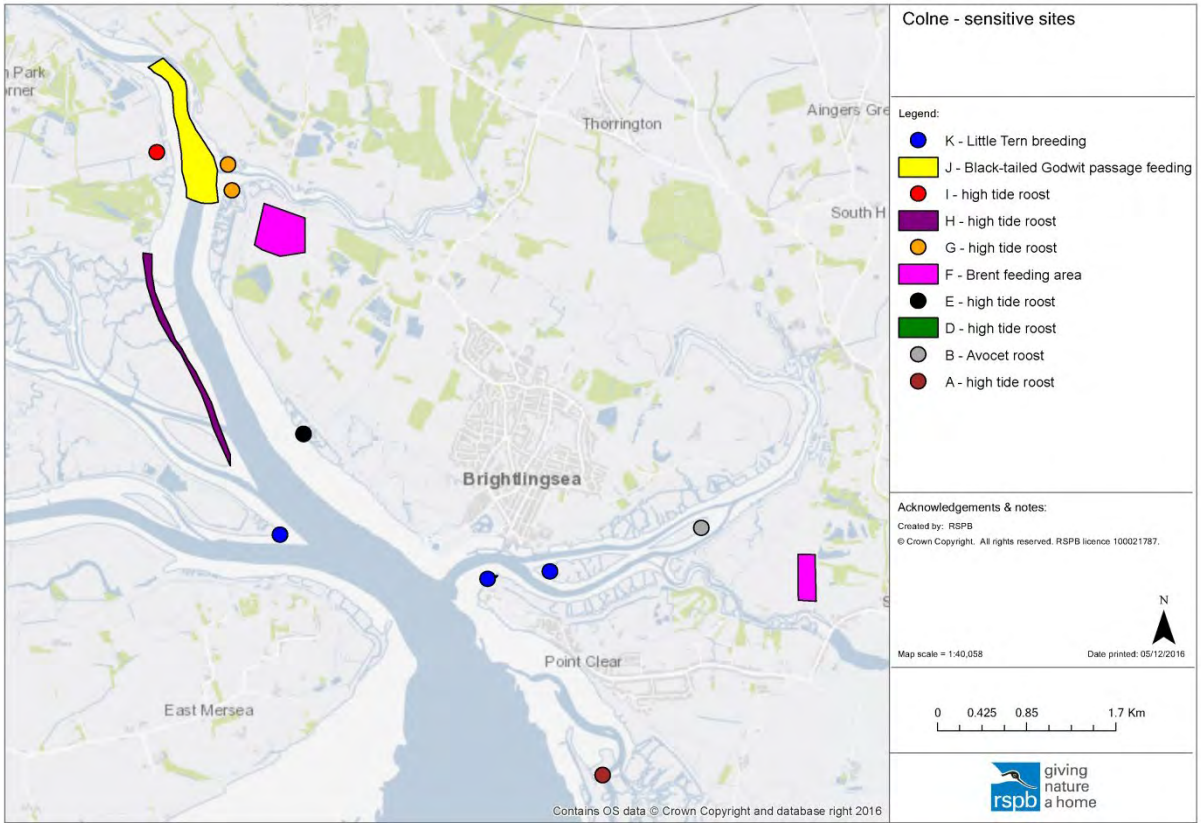
6.24 Visitor monitoring by Colchester Borough Council between 2010 and 2013 was undertaken at Cudmore Grove and Brightlingsea Marshes parts of the SPA, located to the west and east of the estuary respectively. The information gained from these visitor surveys and their relevance in informing this assessment are discussed and interpreted below.

6.25 Many of the key areas of importance within the SPA/Ramsar are currently managed by Natural England and Essex Wildlife Trust to protect and benefit the qualifying bird species of the Colne Estuary, including taking measures to protect key areas from recreational disturbance such as through restricting access to permit holders only, erection of fencing and signage and provision of on-site wardening. Recreational impacts are more likely to occur where unmanaged recreational activity occurs in close proximity to sensitive areas of high importance for birds, such as high tide roosts, nesting sites (e.g. for little tern) and important feeding areas. Such locations tend to be where public access, for example via provision of car parks and Public Rights of Way occur in close proximity to sensitive locations.

6.26 In order to broadly identify areas of the Colne Estuary SPA/Ramsar which are likely to be of increased risk of impacts associated with recreational disturbance, a review of existing management regimes and accessibility has been undertaken.

6.27 **Figure 6.1** below, has been produced by the RSPB as part of the HRA work being completed by Colchester Borough Council for their Section 2 Local Plan. The map identifies sensitive areas of the Colne Estuary in terms of nesting, roosting and feeding for qualifying bird species.

Figure 6.1: Colne Estuary sensitive bird sites identified by RSPB



6.28 The Colne Estuary National Nature Reserve (NNR) comprises much of the SPA in areas sensitive to disturbance. This site covers an area of 576 ha and includes component sites to the south west of St Osyth at 'Colne Point', west of Brightlingsea at 'Brightlingsea Marshes', and on the western side of the estuary at the 'East Mersea Marshes'. The NNR also incorporates the Colne Point Essex Wildlife Trust reserve, which is managed by both Essex Wildlife Trust and Natural England. The wider NNR is managed by Natural England.

6.29 The 'Colne Point' compartment of the NNR is wardened and only accessible to permit holders. Important nesting areas for little terns are fenced off, and informative signage is provided. In addition, public access in the vicinity of the site is restricted to the south east corner where a public footpath runs along the sea wall at the site boundary. Much of the salt marsh, mudflats and beach are physically separated from the public footpath via a series of creeks, including Ray Creek. As a result, it is likely that the existing infrastructure and management regime at Colne Point is likely to be resilient, at least to some extent, to population growth and associated recreational increases in Tendring.

6.30 The East Mersea Flats area of the NNR is located on the western side of the Estuary, along the eastern edge of Mersea Island. Official parking is available at Cudmore Grove Country Park. In addition, a ferry operates between the eastern edge of Mersea Island at Mersea Stone in Colchester Borough and St Osyth Point across the channel in Tendring District. A public footpath runs along the entire northern edge of the SPA. The key findings of the visitor surveys completed at Cudmore Grove indicated that the majority of visitors travelled by car (194 of 230 groups interviewed) with a small proportion (30 of the 230) arriving on foot. The majority (134 of 230) lived in Colchester, with 16 from Braintree and 8 from Tendring, and 70% of visitors travelled 15 miles or less to visit the site. Cudmore Grove is an important destination for dog walking with 52% of visitors surveyed confirming this as the main reason for their visit and 64% of visitors visited all year round, including regular dog walkers.

6.31 A review of the BTO WeBS low tide count data for this area suggests that the northeast coastline where sandflats and mudflats meet a fringe of saltmarsh to the north of Mersea Stone is particularly important for SPA birds. Nevertheless, the visitor monitoring undertaken here confirmed that very few visitors walked in this direction with the majority of visitors using Cudmore Grove and heading west towards West Mersea. As a result, whilst the increased contribution of visitors as a result of population increases associated with the Section 1 Local Plan, and the Tendring and Colchester Borders Garden Community, may contribute to increases in recreational pressures at this location, such increases would be expected to be small and not to result in adverse effects on the sites integrity.

6.32 The Brightlingsea Marshes NNR part of the SPA is also only accessible to permit holders and birds utilising the site, for example for feeding, are therefore also likely to be resilient to the effects of recreational disturbance. However, public access in this area is provided by a public footpath which runs along the seawall between the southwest edge of the NNR and the eastern edge of the saltmarsh, and also by the presence of the Promenade Way Car Park, which incorporates public toilets and a café. The footpath extends from the car park northwards to Wivenhoe and lies within or adjacent to the SPA, passing close to high tide roosts opposite Rat Island and at Aldborough Point. The key findings of the visitor surveys undertaken at this location concluded that there was no significant difference in visitor numbers between winter and spring periods; that 45% of visitors were locals living in Brightlingsea, after which Colchester was the next most frequent place of origin; and that of a total of 310 visitors surveyed, 91 had travelled more than five miles. In addition, the survey revealed that dog walking and walking were the most popular reasons for visiting the site, and 30% of those surveyed stated that they visited the site daily. In light of the current infrastructure at the site, and its appeal of regular dog walkers during winter, the area is likely to be of increased susceptibility to recreational disturbance and increases in visitors associated with strategic housing allocations proposed in the Shared Strategic Section 1 Local Plan. As a result the Section 1 Local Plan, and in particular the Tendring and Colchester Borders Garden Community, has the potential to result in adverse effects on the integrity SPA/Ramsar as a result of in-combination effects between allocations specified in the Section 2 Local Plans.

6.33 A sensitive area for SPA birds has been identified by the RSPB along the western edge of the Colne channel stretching from Rat Island in the south to Fingringhoe Wick in the north. This area is located within Ministry of Defence land and is not publically accessible. As a result the potential for recreational disturbance at this location as a result of terrestrial activities is unlikely. Potential effects associated with water-based activities are discussed below.

6.34 The St Osyth Stone Point peninsular and shoreline of Brightlingsea Creek is another location where sensitive bird areas occur in close proximity to areas with high levels of existing visitor pressures. Public Rights of Way (PRoW) occur along both the north and south shore of Brightlingsea Creek and little tern nesting sites and avocet roosts occur within this area, albeit these important features are in locations which are restricted from public access (e.g. Cindery Island and another unnamed island immediately to the east of Cindery Island). Nevertheless, the Town of Brightlingsea, the presence of a Haven Holiday Park, and the accessibility provided by existing PRoW's are likely to result in relatively high levels of existing visitor pressure in areas of importance for SPA/Ramsar birds. As a result, this location is likely to be of increased susceptibility to recreational disturbance and increases in visitors associated with strategic population increases and housing allocations, particularly the Tendring and Colchester Borders Garden Community, and therefore the Shared Strategic Section 1 Local Plan has the potential to

result in adverse effects on the Colne Estuary SPA/Ramsar as a result of additional recreational pressures at this location.

6.35 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 Colne Estuary, the primary marina's and launch sites are located at Brightlingsea and Wivenhoe but impacts are likely to occur at locations where such activities occur in proximity to areas of sand and mudflats where birds are feeding, and high tide roosts associated with salt marshes.

6.36 The effect of water based recreation on SPA/Ramsar birds is difficult to predict and manage but studies from elsewhere in the UK suggest that people will travel relatively far to partake in such activities and that they are more prevalent in the summer months. Given the specialist nature of these activities and that their prevalence is greater in the summer month when impacts to the wintering and passage bird features are unlikely, the increase in such activities as a result of the Shared Strategic Section 1 Local Plan is considered likely to be small. Nevertheless, to enable a sufficient level of certainty that the policies contained in the Section 1 Local Plan do not result in adverse effects on the Colne Estuary SPA/Ramsar, appropriate mitigation will be required. The most effective means of control is likely to be through the promotion of a code of conduct targeted to marinas and leisure operators. This is considered in more specific detail in the mitigation section below.

6.37 In terms of in-combination effects, the Zone of Influence for the Colne Estuary SPA/Ramsar includes the North Essex Authorities of Braintree District, Colchester Borough and Tendring District and therefore this strategic assessment, which considers the strategic proposals and overall population increases in the Section 1 Local Plan, and the specific findings of the HRA's of the Section 2 Local Plans, has been adopted specifically to consider in-combination effects from the outset. The HRA's of the each of the North Essex Authorities Section 2 Local Plans concluded that they will need to be part of a Recreational disturbance Avoidance and Mitigation Strategy (RAMS) for this SPA/Ramsar in partnership to ensure adverse effects are mitigated, and this is discussed in more detail in the mitigation section below.

6.38 **In summary, population growth and increased coastal visitation as a result of the Strategic Section 1 Local Plan is likely to contribute to increases in both land-based and water-based recreational pressures at the Colne Estuary SPA and Ramsar sites, which have the potential, in the absence of mitigation and avoidance measures, to adversely affect the integrity of the bird qualifying features as a result of the effects of disturbance. Mitigation will be required to ensure adverse effects can be avoided, and this is described in detailed below**.

Essex Estuaries SAC

6.39 Essex Estuaries SAC is designated for the presence of coastal and inter-tidal habitats and the area of coverage in North Essex is largely shared with the Colne Estuary SPA and Ramsar. The habitats for which the SAC is designated are resilient to the disturbance impacts described above for the Colne Estuary SPA/Ramsar but this site is vulnerable to the physical damage which can be caused by trampling and erosion associated with terrestrial recreation and wave damage caused by water based recreation. 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 particularly sensitive to such factors . Areas of particular susceptibility to the effects of recreational activities are likely to be as described above for the Colne Estuary.

6.40 In terms of in-combination effects, the Zone of Influence for the section of Essex Estuaries SAC along this part of the UK coastline includes the North Essex Authorities of Braintree District, Colchester Borough and Tendring District and therefore this strategic assessment, which considers the strategic proposals and overall population increases in the Shared Strategic Section 1 Local Plan, and the specific findings of the HRA's of the Section 2 Local Plans, has been adopted specifically to consider in-combination effects from the outset. The HRA's of each of the North Essex Authorities Section 2 Local Plans concluded that they will need to be part of a RAMS for this SAC in partnership to ensure adverse effects are mitigated and this is discussed in more detail in the mitigation section below.

6.41 **In the absence of mitigation and avoidance measures, the predicted increases in recreational activities as a result of the Shared Strategic Section 1 Local Plan, would be expected to increase the prevalence and occurrence of negative activities occurring within the SAC, and could lead to adverse effects on site integrity. As a result, adequate avoidance and mitigation measures will be required as detailed in the mitigation section below.**

Stour and Orwell Estuaries SPA/Ramsar

6.42 The Stour and Orwell Estuaries SPA and Ramsar sites are located along the northern edge of Tendring and outside the authorities of Colchester and Braintree. The HRA Screening assessment identified that the Shared Strategic Section 1 Local Plan is likely to result in significant effects on the SPA/Ramsar as a result of increases in recreational disturbance. The Site Improvement Plan (SIP) indicates that 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, whilst some activities, such as powerboating, may produce physical disturbance to habitats.

6.43 The SIP indicates that moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds, but the types, levels and locations of potentially disturbing activities are constantly changing and a better understanding is 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.

6.44 In general, strategic housing allocations, which are likely to represent the main source of additional recreational visits to the SPA/Ramsar as a result of the Shared Strategic Section 1 Local Plan, are located several kilometres away from the Stour and Orwell Estuaries SPA/Ramsar. The only site allocation considered to be located within walking distance of the site is for 150 dwellings in Mistley, specified in the Tendring Local Plan Section 2. As a result, the majority of additional visitors originating from the Shared Strategic Section 1 Local Plan are likely to arrive by car, and therefore the provision of alternative open space close to home may represent a useful component measure in helping to mitigate recreational impacts. This is discussed in more detail in the mitigation section below.

6.45 Visitor surveys of the Stour Estuary were completed by Colchester Borough Council between 2010 and 2013 at the Stour Estuary RSPB reserve, and at The Walls in Manningtree. This information is useful in understanding the patterns and purposes of recreational visits to enable accurate predictions of the key sources of impact, and to enable any mitigation and avoidance measures to be suitably focused. As a result, the mitigation and avoidance measures recommended below have been largely based on the visitor monitoring data available for this assessment.

6.46 At the Stour Estuary, the number of visitors varied considerably over the course of the 3 year survey period. In total 217 visitor groups were surveyed and the highest number of visitors was recorded in winter 2012 (63 groups). There was significantly higher numbers of visitors at the weekend, and over the three years, twice the number of groups visited at the weekend than during the week. A large proportion of visitors to the site travelled from the Harwich area (48%), and the majority of visitors had travelled less than five miles to visit the site. Of the 217 groups surveyed, 35 had travelled over 11 miles to visit, with most of these being at the weekend. Dog walking and walking were the predominant activities and during the week there were more people dog walking and at the weekend the numbers walking and dog walking were virtually the same.

6.47 When asked how frequently people visited the most common answer was less than once a month (54 out of 217), whilst the second most common answer given was 2-6 times a week (44 groups). 34% of visitors said that they do no visit alternative sites regularly and of those that do visit alternative sites regularly, Tendring coastal sites were the most common site visited (57 out of 124) with many visitors citing the beach as the preferred location. 16% of visitors said that they did not have good access to open space close to home. During the spring 2012 survey almost half of people surveyed said that they do not have good access to open space.

6.48 The visitor surveys at The Walls in Manningtree identified that the number of visitors at The Walls varied considerably over the course of the three year survey period. In total 278 groups were surveyed over the three years and there were higher numbers of visitors at the weekend during

winter. During all of the spring survey periods the number of weekend and week day visitors was similar. Over the three year survey period a low proportion (12 of the 278) of the groups surveyed said that they were on holiday in the area. Visitors came from a wide range of locations to visit The Walls, principally Tendring District, Colchester Borough and Suffolk. A large number of visitors (114/278) lived in Lawford, Manningtree and Mistley (14, 29 and 71 respectively). 25 were from Colchester, 12 were from Ipswich with the remaining visitors spread around a number of towns and villages. The majority of visitors had travelled less than five miles to visit the site.

6.49 Walking was the predominant activity at The Walls (61% of visitors). Exercise was the second most popular activity (21% of visitors). Dog walking was not as popular here as at other sites in North Essex, with 20% of visitors dog walking. The number of dog walkers was evenly split between the weekday and weekend. Of the 278, 113 visitors cited proximity to home as a reason for visiting. The frequency people visited the site was similar across daily, 2-6 times a week, once a week and less than once a month visitation frequencies.

6.50 The above information, demonstrates that, the majority of visitors to the Stour Estuary, and those visiting regularly live in close proximity. The results of a Footprint Ecology Study as described above in the Screening stage, resulted in a 13km Zone of Influence being recommended for the Stour and Orwell, within which proposed housing allocations were considered likely to contribute to Likely Significant Effects. This distance incorporates many of the site allocations within Tendring and Colchester, most notably including the Tendring/Colchester Borders Garden Community, where 2,500 homes are proposed in the plan period.

6.51 Walking and dog walking were the primary activities at the site and both of these activities have been recorded as disturbing birds. As a result, they are likely to contribute the greatest proportional source of disturbance to bird species, particularly where such activities occur close to important feeding or roosting areas in locations which are not subject to daily management and wardening. As a result any mitigation and avoidance measures proposed (see below), will need to give particular consideration to mitigating the effects of these sources of disturbance.

6.52 In terms of public access and existing management along the Tendring part of the Stour Estuary (also the part of SPA/Ramsar closest to Colchester), the Essex Way long distance public footpath extends along the majority of the coastline, from Manningtree in the west to Harwich in the East. However, a notable area where public access is restricted by the absence of public rights of way, and via severance and screening from the railway line and industrial zones, occurs between Harwich International Port/Parkeston Quay and the western edge of the Stour Estuary RSPB reserve to the west. This incorporates an extensive area of saltmarsh of key importance for SPA/Ramsar birds including Deep Fleet, Bramble Creek and Copperas Creeks. In addition, much of this area is located within the RSPB's Stour Estuary reserve, which is managed to protect the birds from disturbance, including a ban on dogs within most of the reserve, provision of on-site wardening, and use of barriers, screens and bird hides to manage visitor movements. As a result, disturbance of SPA/Ramsar qualifying birds is less likely at these locations.

6.53 In addition to the above, Essex Wildlife Trust manages the Wrabness Nature Reserve which overlooks the saltmarsh and mudflats at Jacques Bay. Again, this site is managed to minimise potential disturbance to birds, including dogs being permitted only when under close control, wardening on site and provision of screening along the sea wall including through maintenance of scrub and tree lines.

6.54 The area between Mistley and Nether Hall, which includes Landooze Rill and Ballister Creek is also relatively well protected from terrestrial recreational disturbance due to the absence of PROW's, private land and the railway.

6.55 A review of WeBS data indicates areas of particular importance for SPA/Ramsar birds in locations close to areas where recreational access is high and unmanaged includes in the vicinity of Mistley and Manningtree, which is particularly important for feeding knot, black-tailed godwit, redshank and shelduck. Elsewhere along the Tendring coastline of the Stour Estuary, important bird locations are primarily located adjacent to the locations described above where the probability of recreational disturbance is lower.

6.56 In light of the above, it is likely that the impacts of terrestrial recreation as a result of the Shared Strategic Section 1 Local Plan would be expected to be relatively localised and focused in the vicinity of Mistley and Manningtree and these are likely to be key locations in providing mitigation

and avoidance measures. Any mitigation and avoidance proposals will need to be based on latest visitor and bird monitoring data, and align with the Recreational disturbance Avoidance and Mitigation Strategy (RAMS) being produced by the Suffolk authorities of Ipswich, Suffolk Coastal and Babergh.

6.57 The Suffolk Authorities have identified, as part of the HRAs of their Local Plans, similar recreational impacts on the north shore of the Stour and Orwell SPA/Ramsar as those identified in this Appropriate Assessment. In order to comply with the requirements of the Habitat Regulations, and to prepare sound plans they have produced a RAMS which has been informed by visitor monitoring work undertaken by Footprint Ecology. It is expected that these studies will provide a detailed baseline of current visitor patterns, hotspots where disturbance is, or is predicted to be, a key issue, and quantified data which can be used to aid future monitoring, and will set out detailed information relating to the existing recreational pressures on the north shore of the SPA/Ramsar, and will set out mitigation and avoidance proposals including locations, methods and funding mechanisms. As a result, this information will be crucial in informing the preparation and delivery of similar mitigation and avoidance measures required as part of the Shared Strategic Section 1 Local Plan and Section 2 Local Plans to ensure adverse effects on integrity associated with recreation are avoided.

6.58 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 Stour Estuary, marinas and launch sites within or closest to the NEAs occur at Manningtree and Mistley. Additional tidal boat moorings are scattered throughout the estuary and the primary recreational marinas are located in the northern part of the SPA, associated with the Orwell Estuary at sites including Ipswich, Suffolk Yacht Harbour at Stratton Hall, Shotley Gate, and Wolverston Marina's where visitors from the NEAs is less likely due to the travel distance involved. These marinas are located a considerable distance from the site allocations proposed in the Tendring District Draft Local Plan Section 2 and the plan is therefore considered unlikely to result in noticeable increases in the use of these facilities.

6.59 The effect of water based recreation on SPA/Ramsar birds is difficult to predict and manage but studies from elsewhere in the UK suggest that people will travel relatively far to partake in such activities and that they are more prevalent in the summer months. Given the specialist nature of these activities and that their prevalence is greater in the summer month when impacts to the wintering and passage bird features are unlikely, the increase in such activities as a result of the Shared Strategic Section 1 Local Plan is considered likely to be small. Nevertheless, to enable a sufficient level of certainty that the Section 1 Local Plan will not result in adverse effects on the Stour and Orwell Estuaries SPA/Ramsar, appropriate mitigation will be required. The most effective means of control is likely to be through the promotion of a code of conduct delivered primarily by marinas and leisure operators. This should be incorporated in any Recreation Avoidance and Mitigation Strategy and is considered in more specific detail in the mitigation section below.

6.60 In terms of in-combination effects, a 13km Zone of Influence for the Stour and Orwell Estuary has been identified, which includes the Suffolk authorities, Tendring District and Colchester Borough. The Suffolk authorities are mitigating for in-combination effects via the Suffolk RAMS described above and are therefore not predicted to result in in-combination effects on the SPA/Ramsar as a result of recreational effects. Visitor monitoring at the SPA/Ramsar concluded that significant proportions of visitors originated from Tendring District, and to a lesser extent from Colchester Borough. As a result it is concluded that these authorities will be required to prepare and implement a RAMS to mitigate for the impacts described above.

6.61 **In summary, population growth and increased coastal visitation as a result of the Shared Strategic Section 1 Local Plan is likely to contribute to increases in both land-based and water-based recreational pressures at the Stour and Orwell Estuaries SPA/Ramsar sites, which have the potential, in the absence of mitigation and avoidance measures, to adversely affect the integrity of the site's bird qualifying features as a result of the effects of disturbance. Mitigation will be required in the form of a RAMS to ensure adverse effects can be avoided, and this is described in detail below.**

Hamford Water SPA/ Ramsar

6.62 Hamford Water SPA and Ramsar site is located on the eastern coast of Tendring. The key recreational threat identified at the Screening stage relates primarily to disturbance of water birds from people and dogs in addition to water sports such as use of jet skis and motorboats.

6.63 The Zone of Influence identified for Hamford Water SPA/Ramsar is 8km. This distance excludes all of Braintree District and Colchester Borough and also excludes the Tendring and Colchester Borders Garden Community. The HRA of the Tendring Section 2 Local Plan concluded that the plan would result in adverse effects in the absence of suitable mitigation, and recommended the requirement for a RAMS. This was due largely to the cumulative effect of smaller site allocations within the sites zone of influence. The HRA of the Tendring Section 2 Local Plan concluded that a RAMS produced by Tendring only would provide sufficient certainty to conclude no adverse effect on the SPA/Ramsar. As a result, given that this impact is restricted to Tendring only and excludes the strategic housing allocations, **no adverse effect on the integrity of Hamford Water SPA/Ramsar site is predicted as a result of the recreation associated with the Shared Strategic Section 1 Local Plan**.

Blackwater Estuary SPA/Ramsar

6.64 The Blackwater Estuary SPA and Ramsar stretches from Maldon in the west to the northwest of Mersea Island in Colchester Borough where it meets the western extent of the Colne Estuary SPA/Ramsar. Much of the site is located along the coastline of Colchester. The key threat to this site relates primarily to disturbance of water birds from people and dogs, in addition to water sports such as use of jet skis and motorboats.

6.65 The strategic housing allocations including the garden communities, which are likely to represent the main sources of additional recreational visits to the SPA/Ramsar, are located within the 22km Zone of Influence for this site. The Colchester and Braintree Section 2 Local Plans identified no potential adverse effects on European sites in isolation, however there is potential for adverse effects on site integrity as a result of the in-combination effects between site allocations within the zone of influence, particularly those in closer proximity such as at West Mersea, Tiptree and Witham.

6.66 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 Blackwater Estuary, the primary marina's and launch sites are located at Maldon, Heybridge, Tollesbury and West Mersea, which provide opportunities for residences of the North Essex Authorities to partake in activities with potential to disturb birds.

6.67 The effect of water based recreation on SPA/Ramsar birds is difficult to predict and manage but studies from elsewhere in the UK suggest that people will travel relatively far to partake in such activities and that they are more prevalent in the summer months. Given the specialist nature of these activities and that their prevalence is greater in the summer month when impacts to the wintering and passage bird features are unlikely, the increase in such activities as a result of the Shared Strategic Section 1 Local Plan is considered likely to be small. Nevertheless, to enable a sufficient level of certainty that the policies contained in the Local Plan do not result in adverse effects on the Blackwater Estuary SPA/Ramsar, appropriate mitigation will be required. The most effective means of control is likely to be through the promotion of a code of conduct targeted to marinas and leisure operators. This is considered in more specific detail in the mitigation section below.

6.68 Given the relatively low numbers of visitors recorded during the surveys, and the presence of significant areas which are not accessible to the public, such as Old Hall Marshes, the potential for increases in recreational visits as a result of the Shared Strategic Section 1 Local Plan to result in significant increases in recreational pressures at the Blackwater Estuary is considered low. Nevertheless, there is uncertainty as to whether the cumulative impact of increases in population associated with site allocations within the Zone of Influence, including at Witham, West Mersea and Tiptree in the Section 2 Local Plans, could result in adverse effects on site integrity, and therefore mitigation will be required to provide a suitable level of certainty that impacts will be avoided, and these are discussed below.

6.69 In terms of in-combination effects, the Zone of Influence for the Blackwater Estuary SPA/Ramsar includes the North Essex Authorities of Braintree District and Colchester Borough and therefore this strategic assessment, which considers the strategic proposals and overall population increases in the Shared Strategic Section 1 Local Plan, and the specific findings of the HRA's of the Section 2 Local Plans, has been adopted specifically to consider in-combination effects from the outset. The HRAs of each of the North Essex Authorities Section 2 Local Plans concluded that they will need to be part of a RAMS for this SPA/Ramsar in partnership to ensure adverse effects are mitigated, and this is discussed in more detail in the mitigation section below.

6.70 **In summary, population growth and increased coastal visitation as a result of the Shared Strategic Section 1 Local Plan is likely to contribute to increases in both land-based and water-based recreational pressures at the Blackwater Estuary SPA and Ramsar sites, which have the potential, in the absence of mitigation and avoidance measures, to adversely affect the integrity of the bird qualifying features as a result of the effects of disturbance. Mitigation will be required to ensure adverse effects can be avoided, and this is described in detailed below**.

Consideration of the England Coastal Path

6.71 Consideration of the England Coastal Path project is pertinent in considering the accuracy of the key locations and impacts identified herein. The new National Trail, which is being led by Natural England, will give people right of access around our entire open coastline. This includes, where appropriate, any land, other than the trail itself, which forms part of the coastal margin and which has public rights of access along the way. Natural England expects to complete work on the England Coast Path in 2020 and it is understood that sections of the trail within Essex are underway and are expected to be completed by 2020. At present, the exact alignment of the path in Essex is not known, but it is reasonable to assume that it will further increase accessibility to sensitive areas and therefore the interpretation of key areas within this assessment may be subject to change in the near future.

6.72 The specific impacts associated with the England Coastal Path will need to be carefully considered by Natural England and appropriate mitigation and avoidance measures will be required to ensure that the project does not adversely affect European sites. It is likely that the mitigation required in respect of recreational impacts, as described below, will need to carefully align with those proposed by Natural England, and ideally a coordinated approach to mitigation is likely to be the most effective approach to avoiding impacts on European sites. As a result, the Recreational disturbance Avoidance and Mitigation Strategy outlined below will require close consultation and agreement with Natural England.

Mitigation

Essex Coast Recreational disturbance Avoidance & Mitigation Strategy (RAMS)

6.73 This assessment has identified that recreational impacts to the Colne Estuary SPA/Ramsar, Essex Estuaries SAC, the Stour and Orwell Estuaries SPA/Ramsar, Hamford Water SPA/Ramsar and Blackwater Estuary SPA/Ramsar would, in the absence of mitigation and avoidance measures, be expected to result in adverse effects on the integrity of these sites, either alone, or in-combination with other plans and projects. As a result, at an early stage in the iterative HRA process it was recommended that additional mitigation and avoidance measures in the form of a Recreational disturbance and Avoidance and Mitigation Strategy (RAMS) would be needed and agreed with Natural England prior to adoption of the Shared Strategic Section 1 Local Plan and the Section 2 Local Plans to ensure adverse effects on integrity (AEOI) are avoided. A commitment to the successful delivery and implementation of the RAMS was included within the Shared Strategic Section 1 Local Plan to ensure that the plan is sound.

6.74 A Final Draft Essex Coast RAMS has recently been completed[23] with interim measures in place , which therefore provides a high level of certainty in the conclusions detailed herein. The 12 partner LPAs will present the Final Draft RAMS to its elected members. Each LPA has its own timetable of committee dates, therefore the RAMS will be approved by different LPAs at slightly different times scheduled for Spring/Summer 2019. Colchester Borough Council presented the

[23] https://www.tendringdc.gov.uk/essex-coast-recreational-disturbance-avoidance-and-mitigation-strategy-rams

Essex Coast RAMS Strategy Document and draft SPD to its Local Plan Committee in February 2019. Tendring District Council will present the RAMS to its committee in July 2019.

6.75 The LPAs have also drafted a Supplementary Planning Document (SPD) which will facilitate the delivery of the Essex coast RAMS. This will be taken to elected members to seek approval for public consultation on the SPD. Colchester Borough Council's Local Plan Committee has approved the draft SPD for consultation (February 2019). This consultation will take place in 2019 in accordance with each LPA's Statement of Community Involvement. It is anticipated that the SPD will be adopted by each LPA in 2019.

6.76 The additional measures required to avoid AEOI are applicable to each of the European Sites listed above, and therefore the recommended approach to mitigation and avoidance detailed herein in the form of a RAMS is applicable to each of them. Albeit, where site-specific measures are required, this is made clear below.

6.77 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.

6.78 Relevant examples include the Recreation Avoidance and Mitigation Strategy 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 being prepared 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.

6.79 A key component of the above examples is the adoption of a strategic approach to mitigation which involves more than one Authority. The sources of recreational impacts on European sites, typically originate from more than one Authority, as is the case with the North Essex Authorities. 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.

6.80 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 easily replicated, and 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 primarily 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.

6.81 In light of the above, and through close liaison with Natural England during the preparation of their Section 2 Local Plans and the Shared Strategic Section 1 Local Plan, The North Essex Authorities together with other Essex Authorities have adopted a joint strategic approach to ensuring impacts associated with recreation will be adequately addressed and mitigated. Through a series of meetings and workshops, the Authorities agreed to prepare and implement RAMS for all Essex coastal European sites. The broad principles of what is required as part of the RAMS is set out in this section.

6.82 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 AEOI.

6.83 Key principles upon which the RAMS are based include 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, (as outlined below). These principles have been further developed by the Essex Authorities in close consultation and agreement with Natural England to ensure that a suitable RAMS is in place prior to adoption of the Shared Strategic Section 1 Local Plan.

Mechanisms of funding and delivery

6.84 As described above, the RAMS will be delivered through Supplementary Planning Documents (SPD). The LPAs have drafted an SPD and it is anticipated that the SPD will be adopted by each LPA in 2019.

6.85 The SPD approach follows a meeting between the North Essex Authorities and Natural England (8th February 2017), at which Natural England recommended that this was the preference for delivery of RAMS. This approach has been used successfully elsewhere such for 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.

6.86 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 the RAMS produced by the North 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.

6.87 As per the TBH SPD, it was recommended that RAMS for the above European sites include access management 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.

6.88 To ensure that there is a sufficient level of certainty that the RAMS will successfully mitigate the recreational impacts identified in this HRA, and will continue to do so for lifetime of the plan, the draft has been prepared and approved by Natural England prior to adoption of the Shared Strategic Section 1 Local Plan.

Consideration of the Suffolk RAMS

6.89 As described above, the Suffolk Authorities of Ipswich, Suffolk Coastal and Babergh are currently preparing a strategic RAMS to mitigate recreational impacts of their Local Plans on the Stour and Orwell Estuaries SPA/Ramsar which have been identified through the HRA process. This RAMS has been prepared and agreed in consultation with Natural England as the Statutory Consultee and therefore a similar and complementary approach has been adopted by the North Essex Authorities of Tendring District Council and Colchester Borough Council, which propose allocations within the SPA/Ramsar Zone of Influence.

Ongoing visitor monitoring

6.90 To ensure that RAMS continues to be based upon up-to-date information, it is recommended that regular visitor monitoring is undertaken as part of the RAMS. The initiation and frequency of such monitoring should be agreed with Natural England in preparing the RAMS. 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 specifications committed to in the RAMS continue to be based upon up to date information and in agreement with Natural England. It will also be important to ensure that up to date bird data is also 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 North Essex Authorities that in the event that suitably up to date bird survey data is not available, albeit unlikely, they will undertake equivalent survey work to inform the RAMS.

Provision of open space and green infrastructure

6.91 During a meeting on 8th February 2017 between the North Essex Authorities and Natural England, it was broadly agreed by all parties that given the unique nature and attraction of these coastal Europeans sites, the focus of the RAMS should primarily be on access management and monitoring as described below.

6.92 Nevertheless, 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. And therefore the strategic approach to incorporating protective measures specified in the Shared Strategic Section 1 Local Plan is considered likely to provide an effective contribution in mitigating significant effects associated with recreation.

6.93 To maximise the effectiveness of its role in mitigation recreational impacts on the coastal European sites, the design and management of open space and green infrastructure has focused towards attracting those groups of visitors who regularly visit the European Sites. This primarily includes walkers and dog walkers.

6.94 Policies within the Section 2 Local Plans include commitments for the delivery of green space and GI which have the potential to contribute towards mitigation of recreational impacts on the European sites. The Tendring Section 2 Local Plan includes Policy HP3 which specifies that all new development must be designed to protect and enhance existing GI in the local area. It specifies that GI identified by the Plan will be protected, managed and where necessary enhanced by a) managing development to provide a net gain; b) supporting investment priority projects set out in the Green Infrastructure Delivery Plan; c) not permitting development that compromises the integrity of the overall GI networks; d) investing in enhancement and restoration where opportunities exist; and e) using developer contributions to facilitate improvements to their quality and accessibility. The Tendring Section 2 Local Plan specifies that the Haven Gateway Green Infrastructure Study identifies key Green Infrastructure projects planned or underway that the Council will seek to deliver over the course of the plan period, by working with its partners to secure funding, delivering new green space as an integral part of specific residential, commercial or mixed-use developments or by securing financial contributions from developers.

6.95 The Tendring Section 2 Local Plan also explains that locally based open space standards have been developed in the Tendring Open Spaces Strategy, and proposals for new residential development should contribute to the provision and/or enhancement of open space in areas where there is a deficiency in provision, or poor quality of, open spaces. Policy HP4 Open Space, Sports and Recreation Facilities includes the following minimum open space standards:

- Parks and gardens - 1ha per 1,000 population within a 15 minute walk (1km) for urban populations.
- Amenity Greenspace - 0.75ha per 1,000 population within 10-15 minute walk of whole population.
- Natural and Semi-Natural Greenspaces (e.g. Country Parks, nature reserves, woodlands and meadows) – 2.1ha per 1,000 population within 20 minute walk (1.6km) of whole population.
- Green corridors/seafront - 0.7ha per 1,000 population within a 15 minute walk of the entire urban population.
- All new residential developments of 11 or more dwellings will be required to contribute to open space by either providing new areas or improving the quality or accessibility of existing open space.
- Proposals for residential development on sites of 1.5 hectares and above are required to provide on-site open spaces based on local needs or deficiencies.

6.96 The Colchester Section 2 Local Plan includes similar requirements to meet open space and GI standards including Policy ENV1 which requires at least 10% of developable site areas to be delivered as useable public open space. The Colchester Section 2 Local Plan also includes Policy ENV3 which promotes the Colchester orbital route which comprises both the inner and outer orbital which will create an interlinked mutli-user access route around urban Colchester and also

links into existing green corridors such as the Wivenhoe Trail and Rowhedge Trails and link with nature reserves etc.

6.97 Despite the commitment of 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 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.

6.98 As discussed previously, the attraction of the coastline is strong and therefore provision of alternative open space is likely to be less effective for those allocations located in close proximity to accessible parts of the European sites. No such strategic site allocations occur within the North Essex Authorities, and therefore it is recommended that strategic provision of GI and high quality open space is targeted towards the larger strategic housing allocations including the Tendring and Colchester Borders Garden Community, and other large allocations within the Local Authorities, such as those on the edge of Clacton-on-sea in Tendring, where their distance is such that visits to the European Sites will typically involve driving. As a result, if well designed, there is likely to be an opportunity for open space at such sites to attract regular dog walkers and walkers instead of visiting the European sites.

6.99 The size of these sites will also enable greater flexibility in their design and masterplanning at the project stage will enable these sites to provide the range of features required to maximise attractiveness to the target groups described above.

6.100 It was recommended that the wording of open space policies included in the Strategic Section 1 Local Plan mirrored the recommendations for similar safeguards in Section 2 Local Plans, to include specific reference to the role of open space and GI in providing alternatives to European sites, and that such sites should be designed and managed appropriately to maximise their potential effectiveness in this role.

Watercraft disturbance - Code of Conduct

6.101 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. The nesting sites of little terns are located on shallow sandy areas above the high tide mark and are therefore not especially vulnerable to such activities. Nevertheless, water based recreation does occur during the winter and passage months, and where such activities occur in close proximity to bird areas, there is a high probability of disturbance to birds while feeding or roosting in otherwise undisturbed locations.

6.102 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 promotional leaflets, posters and signage.

On site management and monitoring

6.103 The European sites are managed by Natural England, Essex Wildlife Trust and the RSPB, and therefore the RAMS was 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. This is being achieved via a series of workshops for the specific European sites which includes appropriate stakeholder representatives such as site managers and area advisers.

6.104 Detailed and site specific management measures are provided in the RAMS and have been specifically informed via the workshops and consultation described above. Recommended aspects for inclusion within the RAMS were informed by earlier iterations of this HRA and included, but were 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).

6.105 As described above, to ensure that 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 Council that in the event that suitably up to date bird survey data is not available during each five year period, albeit unlikely, they will undertake equivalent survey work to inform the RAMS.

Conclusion

6.106 In summary, the implementation of recreation mitigation strategies is now a widely advocated means of mitigating impacts associated with recreation at European sites. As a result, there is a high degree of confidence in the appropriateness and likely effectiveness of such a measure. The production and implementation of the Essex Coast RAMS which includes a commitment to regular monitoring, and which has the flexibility to adapt to findings and pre-empt impacts before they affect integrity is considered likely to provide an effective form of mitigation and avoidance for recreational pressures arising from the Shared Strategic Section 1 Local Plan.

6.107 **Given that the Essex Authorities have prepared a final draft Essex Coast RAMS in close consultation with Natural England and other key stakeholders, and are implementing an interim approach, there is a high level of confidence that the Shared Strategic Section 1 Local Plan is not predicted to result in adverse effects on the integrity of the Stour and Orwell Estuaries SPA/Ramsar, Hamford Water SPA/Ramsar, Essex Estuaries SAC, Colne Estuary SPA/Ramsar, or Blackwater Estuary SPA/Ramsar, either alone or in-combination with other plans and projects as a result of recreation.**

Water quality

6.108 The HRA Screening identified that the Shared Strategic Strategic Section 1 Local Plan has potential to result in significant adverse effects on the Stour and Orwell Estuaries SPA/Ramsar, the Colne SPA/Ramsar, and the Essex Estuaries SAC as a result of changes in water quality.

6.109 The HRA Screening of the Braintree Local Plan concluded that the Section 2 Local Plan would not result in significant effects on European Sites either alone or in-combination as a result of change in water quality (or quantity) due to an absence of impact source-receptor pathway and confirmation that the zone has sufficient capacity to facilitate the proposals within the Plan. As a result, the Braintree Local Plan will not contribute towards potential effects identified at the Screening stage.

6.110 The HRA Screening Assessment of the Colchester Section 2 Local Plan highlighted that the draft Water Cycle Study (WCS) 2016 identified Langham Water Recycling Centre (WRC) as being over capacity and there may be subsequent implications for receiving water bodies in terms of water quality, including the Stour Estuary. This WCS concluded that solutions are required in order to accommodate the growth to ensure that the increased wastewater flow discharged does not impact on the current quality of the receiving watercourses, their associated ecological sites and also to ensure that the watercourses can still meet with legislative requirements. The Appropriate Assessment of the Colchester Section 2 Local Plan concluded that the addition of a clause in the relevant Langham site allocations policy to restrict the start of development until adequate water and sewage treatment infrastructure is in place to serve the development, was sufficient to ensure that adverse effects on the Integrity of the Stour and Orwell would be avoided. In addition, the Colchester Section 2 Local Plan includes the following commitment to avoiding water quality/quantity impacts: "*proposals must, as relevant, address all of the following Borough wide requirements: Adequate wastewater treatment and sewage infrastructure enhancements for the relevant catchment area; and 'Appropriate SuDS for managing surface water runoff within the overall design and layout of the site*". The HRA of the Colchester Section 2 Local Plan concluded that the Plan would not result in adverse effects on the integrity of any European sites given the safeguards provided.

6.111 The HRA of the Tendring Section 2 Local Plan identified several housing and employment site allocations with potential to adversely affect the above European sites as a result of changes in water quality. However, it was concluded that provided a number of safeguards were included and implemented, the Section 2 Local Plan, including the Strategic Tendring and Colchester Borders Garden Community, would not result in adverse effects on European sites.

6.112 As part of the examination process the Environment Agency (EA) responded to questions from the Planning Inspector and confirmed the following in relation to water quality matters:

- This included EA confirming that as policy SP6 of the Strategic Section 1 Local Plan appears to be an overarching policy a suitable reference relating to water supply and waste water infrastructure, and sustainable drainage should be included which provides policy direction to the individual garden community policies under SP8, SP9 and SP10.
- The EA confirmed that matters relating to fluvial flood risk can be dealt with through the application of the sequential approach at the master planning stage, along with the preparation of site specific flood risk assessments.
- The EA would expect the North Essex Garden Communities Integrated Water Management Strategy to outline at the very least some form of timetable for any necessary water supply and waste water treatment upgrades or new facilities.

6.113 The North Essex Authorities has confirmed that it would be willing to accommodate and implement appropriate safeguards in light of the above EA comments as part of any modifications to the Strategic Section 1 for Local Plans. It is noted that a delivery plan would form part of Stage 3 of the Integrated Water Management Strategy.

Conclusion

6.114 In light of the above, including the findings of the Section 2 Local Plans, comments received from EA, and the willingness of the NEAs to accommodate and implement these recommendations, it is concluded that, whilst there are currently issues regarding capacity of water recycling centres in both Colchester Borough and Tendring District, the safeguards which will be included both within the Section 1 and Section 2 Local Plans will ensure that a given development will not proceed until the necessary infrastructure upgrades have been provided as necessary in accordance with Anglian Water and Environment Agency advice. Therefore, **in conclusion, the overall strategic growth proposed in North Essex as part of the Shared Strategic Section 1 Local Plan will not result in significant adverse effects on the Stour and Orwell Estuaries SPA/Ramsar, Colne Estuary SPA/Ramsar, or Essex Estuaries SAC as a result of changes in water quality.**

7 Conclusion

7.1 At the Screening stage, Likely Significant Effects on European Sites, either alone or in combination with other plan and projects, were identified as follows.

- **Loss of offsite habitat** – Abberton Reservoir SPA/Ramsar, Blackwater Estuary SPA/Ramsar, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA/Ramsar, and Colne Estuaries SPA and Ramsar.
- **Recreational Impacts** – Abberton Reservoir SPA, Essex Estuaries SAC, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA and Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar and Outer Thames Estuary SPA.
- **Water quality** – Essex Estuaries SAC, Stour and Orwell Estuaries SPA/Ramsar, Colne Estuary SPA/Ramsar.

7.2 The Appropriate Assessment stage identified whether the above Likely Significant Effects will, in light of mitigation and avoidance measures, result in adverse effects on the integrity of the European sites either alone or in-combination with other plans and projects. Where necessary, suitable mitigation measures and modified policy wording is recommended which would enable a sufficient level of certainty to conclude no Adverse Effect on the Integrity of European sites.

Loss of offsite habitat

7.3 The Tendring and Colchester Borders Garden Community and larger housing allocations on the edge of Clacton-on-Sea were identified as providing suitable offsite foraging habitat for golden plover and lapwing in the form of arable fields and short grazed pasture. In isolation the importance of these sites for these species is likely to be low when compared with the extensive areas of habitat of greater suitability both within the North Essex Authorities and the wider land areas surrounding these European sites, particularly given the influence of limiting factors such as distance from SPAs, disruption of flight paths by urban settlements, and presence of edge features. As a result, the potential for the loss of offsite habitat to adversely affect these species related primarily to the cumulative effect of reducing the extent of feeding areas. The likelihood of this occurring was considered low given the quality of the habitat affected and the small amount of habitat affected as a proportion of that available around each of the European sites.

7.4 Nevertheless, despite the above, uncertainty remained under the precautionary principle as to whether the loss of sites will cumulatively adversely affect the integrity of the SPA/Ramsar sites in relation to golden plover and lapwing. Given the dependency of these species on offsite arable fields and grasslands, inclusion and implementation of appropriate safeguards and mitigation has been recommended for inclusion in the Shared Strategic Section 1 Local Plan to provide certainty that there will be no adverse effect on the integrity of the Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar.

7.5 Mitigation required in the Shared Strategic Section 1 Local Plan includes:

- Wintering bird surveys as part of any project level development proposals and masterplanning for the Tendring and Colchester Borders Garden Community, undertaken as part of a coordinated approach with the parallel requirement which has been identified as mitigation for certain site allocations in the HRA of the Tendring District Draft Section 2 Local Plan.
- A commitment to phasing of development and mitigation. This may include provision of appropriate mitigation in the form of habitat creation and management in perpetuity, either on-site or through provision of strategic sites for these species elsewhere.

7.6 The mitigation measures recommended in this HRA are considered precautionary, appropriate and effective. Given its size, the Tendring and Colchester Borders Garden Community would likely be capable of mitigating for its own impact on-site if necessary, and therefore the above measures

have been recommended to provide certainty that the cumulative effect of habitat loss would not result in significant adverse effects.

7.7 **In conclusion, providing that the above mitigation safeguards are incorporated into the Shared Strategic Section 1 Local Plan, and are implemented successfully, adverse effects on the integrity of the Stour and Orwell SPA/Ramsar, Hamford Water SPA/Ramsar, Colne Estuary SPA/Ramsar, Blackwater Estuary SPA/Ramsar, and Abberton Reservoir SPA/Ramsar, as a result of loss of offsite functionally linked habitat will be avoided.**

Recreational impacts

7.8 The assessment concluded that the Section 1 Local Plan will not result in adverse effects on the integrity of the Outer Thames Estuary either alone or in-combination, and no mitigation is required.

7.9 The assessment concluded that the existing avoidance and mitigation measures in place at Abberton Reservoir (e.g. site management) are sufficient to ensure that the Section 1 Local Plan will not result in adverse effects on the integrity of the SPA either alone or in-combination.

7.10 Recreational impacts were identified as a key threat to Essex Estuaries SAC, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA and Ramsar, Colne Estuary SPA/Ramsar and Blackwater Estuary SPA/Ramsar, both alone and, in the case of the Stour and Orwell Estuaries SPA/Ramsar, as a result of in-combination effects with the Local Plans of neighbouring Suffolk Authorities.

7.11 This issue is an increasingly prevalent threat to European sites across the UK, and in response to emerging research and evidence, the consensus between Local Authorities, Natural England, and other key stakeholders such as the RSPB and the Wildlife Trusts, was that the most appropriate method of mitigation and avoidance is via implementation of Recreational disturbance Avoidance and Mitigation Strategies (RAMS) which provides a multi-faceted approach and is adaptive and responsive to regular monitoring.

7.12 Eleven Essex Authorities, including the NEAs, have produced a final draft of the Essex coast RAMS in close consultation and approved by Natural England, with each authority taking the RAMS to its elected members for approval in Spring 2019. The authorities have also drafted a Supplementary Planning Document (SPD) which will facilitate the delivery of the Essex coast RAMS. Consultation on the draft SPD will take place in2019, in accordance with the Statement of Community Involvement of each Authority. It is anticipated that the SPD will be adopted by each LPA in 2019.

7.13 This strategic approach has the following advantages:

- It meets the requirements of planning legislation: necessary to make a development acceptable in planning terms, directly related to the development and fairly and reasonably related in scale and kind to a development;
- It is endorsed by Natural England and has been used to protect other such Sites across England;
- It is pragmatic: a simple and effective way of protecting and enhancing the internationally important wildlife of the Essex coast and will help to reduce the time taken to reach planning decisions;
- It allows for detailed evidence to be gathered to understand the recreational disturbance patterns and provide an effective mitigation package;
- It provides an evidence based and fair mechanism to fund the mitigation measures required as a result of the planned residential growth; and
- It provides developers, agents and planning authorities with a comprehensive, consistent and efficient way to ensure that appropriate mitigation for residential schemes within the Zone of Influence is provided in an effective and timely manner

7.14 As a result of this approach there is a high degree of certainty that the impacts identified in this assessment can be avoided.

7.15 As a result, **the Appropriate Assessment concluded that the Shared Strategic Section 1 Local Plan will not result in adverse effects on the integrity of European Sites as a result of recreational pressures, either alone or in-combination, due to the adequacy, appropriateness and effectiveness of the avoidance and mitigation measures proposed**.

Water quality

7.16 The assessment concluded that adverse effects on the integrity of European sites as a result of changes in water quality can be avoided provided the above additional commitments and policy safeguards are included in the appropriate Local Plan document, such as a commitment to ensure that phasing of development does not exceed infrastructure capabilities and that the necessary upgrades are in place prior to development coming forward.

7.17 As a result of the policy safeguards which will be provided, **the Shared Strategic Section 1 Local Plan will not result in adverse effects on the integrity of the Stour and Orwell Estuaries SPA / Ramsar, the Colne Estuary SPA / Ramsar and Essex Estuaries SAC as a result of changes in water quality, either alone or in-combination due to the ability and commitment to address water treatment capacity issues prior to specific developments**.

Overall conclusion

7.18 The approach being taken by the North Essex Authorities in addressing the key issues, particularly the strategic and collaborative approach, and working closely with Natural England, is advocated and deemed to be the most appropriate and pragmatic approach in ensuring that the Shared Strategic Section 1 Local Plan is sound.

7.19 In light of the People Over Wind and Holohan ruling, it can be confirmed that the findings of the HRA rely on avoidance and mitigation measures only at the Appropriate Assessment and that the complex relationships between qualifying and non-qualifying habitats and species for each site are taken into account.

7.20 **In conclusion, providing that key recommendations and mitigation requirements are adopted and implemented, the Shared Strategic Section 1 Local Plan will not result in adverse effects on the integrity of European sites either alone or in-combination**.

Appendix 1
European Sites Information

This appendix contains information about the European sites scoped into the HRA. Information about each site's area, the site descriptions, qualifying features and pressures and threats are drawn from Natural England's Site Improvement Plans (SIPs)[24] and the Standard Data Forms or Ramsar Information Sheets available from the JNCC website[25]. Site conservation objectives are drawn from Natural England's website and are only available for SACs and SPAs.[26]

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
Large estuarine site in south-east England. The site comprises the major estuaries of the Colne, Blackwater, Crouch and Roach river.					
Essex Estuaries SAC	46140.82	Annex 1 habitats that are a primary reason for selection of this site: • Estuaries • Mudfalts 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	With regard to the individual species and/or assemblage of species for which the site has been classified: • Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • 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	**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, '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. **Fisheries: Commercial marine and estuarine** – 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. Bottom towed fishing gear has been categorised as a 'Red' for the interest features listed, specifically the seagrass beds *Zostera* spp, a sub-feature of the SAC.	**Habitat** - The qualifying habitats of the SAC are reliant a range of coastal factors, including salinity, sedimentation, tide, sea level, turbidity and elevation, which influence the interdependent intertidal, subtidal and terrestrial habitats. These factors influence the complex interdependent intertidal, subtidal and terrestrial habitats present along the coast. Additional factors are provided below for each habitat (where relevant). **Sandbanks which are slightly covered by sea water all the time** Reef-building species such as *Sabellaria spinulosa* help to stabilise the sediment,

[24] Site Improvement Plans: East of England, Natural England, http://publications.naturalengland.org.uk/category/4873023563759616
[25] JNCC Data Forms http://jncc.defra.gov.uk/default.aspx?page=4
[26] European Site Conservation Objectives, Natural England, http://www.naturalengland.org.uk/ourwork/conservation/designations/sac/conservationobjectives.aspx

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within 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. **Invasive species** – 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. Invasive common cord grass may adversely affect plant species for which the Essex Estuaries SAC is designated. **Fisheries: Recreational marine and estuarine** – Recreational bait digging may 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. **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	allowing the colonisation of sessile animals.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
				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 is located on the Essex coast in eastern England. It is a large, shallow estuarine basin comprising tidal creeks and islands, intertidal mud- and sand-flats, and Site Name Area (ha) Qualifying Features Conservation objectives (only available for SACs & SPAs) Key vulnerabilities / factors affecting site integrity saltmarsh. The rich invertebrate fauna and sheltered nature of the site results in its importance for internationally important numbers of waterbirds during the passage and winter periods, as well as for breeding terns in summer. The shallow and sheltered nature of the complex provides refuge for waterbirds, especially in periods of severe weather.					
Hamford Water SAC	50.34	• Fisher's estuarine moth *Gortyna borelii lunata*	Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the	**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.	In general, the qualifying species of the SAC rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). **Fisher's Estuarine Moth** • Habitat Preference - sea-walls and coastal grassland • Diet - Hog's Fennel.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			qualifying features; • The distribution of the qualifying features within the site.		
Hamford Water SPA	2187.21	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*	Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.	**Coastal squeeze –** The Essex coastline is subject to rising sea levels and increasing frequency in coastal and tidal surges, as a result of climate. To prevent intertidal habitats from shifting landward hard sea defences have been implemented. The combination of climate change, sea defences and subsidence are likely to contribute to coastal squeeze, which will lead to the degradation and reduction of suitable habitat used by overwintering and breeding birds for feeding, roosting and/or nesting. **Changes in species distribution –** Declines in the number of bird species present at Hamford Water SPA have occurred. This is likely to be the result of changes in population and distribution on an international scale, due to climate change. **Public access/disturbance –** Hamford Water attracts a large number of yachts and accompanying watersports. Sensitive areas of the SPA are threatened by unauthorised access on foot, from boats and by quad bike/motorbike. **Air pollution: Risk of atmospheric nitrogen deposition –** Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Sterna albifrons:* Little Tern • Habitat Preference – Seacoasts, rivers and lakes. • Diet – Small fish and invertebrates. *Recurvirostra avosetta:* Avocet • Habitat Preference - Mudflats, lagoons and

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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		habitats used by breeding terns and hence there is a risk of harmful effects. **Fisheries: Commercial marine and estuarine –** Commercial fishing activities can be very damaging to inshore marine habitats and the bird species dependent on the communities they support. Any 'amber or green' categorised commercial fishing activities in European Marine Sites are assessed by Kent and Essex Inshore Fisheries Conservation Authority (IFCA). This assessment takes into account any in-combination effects of amber activities and/or appropriate plans or projects.	sandy beaches. • Diet - Aquatic insects and their larvae, crustaceans and worms. *Pluvialis apricaria:* Golden Plover • Habitat Preference – Tundra, wet moor, and on migration pasture & estuaries. • Diet – Invertebrates, esp beetles, earthworms, this species feeds extensively at night. *Philomachus pugnax:* Ruff • Habitat Preference – Grassy tundra, lakes, farmland, on migration mudflat. • Diet – Invertebrates, especially insects, and some plant material (especially in winter). *Charadrius hiaticula*: Ringed plover • Habitat Preference - Sandy areas with low vegetation, and on migration estuaries. • Diet - Summer, invertebrates, and in

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					winter primarily marine worms, crustaceans and molluscs. *Limosa limosa islandica*: Black-tailed godwit • Habitat Preference - Marshy grassland and steppe, and on migration mudflats. • Diet - Insects, worms and snails, but also some plants, beetles, grasshoppers and other small insects during the breeding season. *Branta bernicla bernicla*: Dark-bellied brent goose • Habitat Preference - Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. *Pluvialis squatarola*: Grey plover • Habitat Preference - Tundra, and on migration pasture and estuaries. • Diet - In summer, invertebrates and in winter primarily marine worms, crustaceans

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					and molluscs. *Tadorna tadorna*: Common shelduck • Habitat Preference – Coasts, estuaries and lakes. • Diet - Mostly invertebrates, especially insects, molluscs and crustaceans. *Anas crecca*; Eurasian teal (Non-breeding) • Habitat Preference – Lakes, marshes, ponds & shallow streams. • Diet – Omnivorous, mostly seeds in winter, feeds mostly at night in shallow water. *Tringa totanus*: Common redshank • Habitat Preference - Rivers, wet grassland, moors and estuaries. • Diet - Invertebrates, especially earthworms, cranefly larvae (inland) crustaceans, molluscs, marine worms (estuaries).
Hamford Water	2187.21	Species/populations with peak	None available.	Similar to Hamford Water SPA (above).	**Birds**

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
Ramsar site		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.*			Refer to Hamford Water SPA above.
The Stour and Orwell estuaries straddle the eastern part of the Essex/Suffolk border in eastern England. The estuaries include extensive mud-flats, low cliffs, saltmarsh and small areas of vegetated shingle on the lower reaches. The mud-flats hold *Enteromorpha, Zostera* and *Salicornia* spp. The site also includes an area of low-lying grazing marsh at Shotley Marshes on the south side of the Orwell. In summer, the site supports important numbers of breeding Avocet *Recurvirostra avosetta*, while in winter they hold major concentrations of waterbirds, especially geese, ducks and waders. The geese also feed, and waders roost, in surrounding areas of agricultural land outside the SPA. The site has close ecological links with the Hamford Water and Mid-Essex Coast SPAs, lying to the south on the same coast.					
Stour and Orwell Estuaries SPA	3676.92	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:	With regard to the individual species and/or assemblage of species for which the site has been classified ("the Qualifying Features" listed below); Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring	**Coastal squeeze** – Coastal defences are present along most of the Orwell coastline to mitigate for impacts from climate change, such as rising sea level. Unless changes are made to the management of the coastline, habitats supporting qualifying SPA birds will be lost or degraded through coastal squeeze, sedimentation and reduced	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		Over winter: • Black-tailed Godwit *Limosa limosa islandica* • Dunlin *Calidris alpina alpina* • Grey Plover *Pluvialis squatarola* • Pintail *Anas acuta* • Redshank *Tringa totanus* • 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 20,000waterfowl 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*;	the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.	exposure. **Public access/disturbance** – Stour and Orwell Estuaries is subject to land- and water-based activities, including boating and water sports; walking; bait- digging; fishing; wildfowling; and military overflight training. These activities are likely to impact habitats supporting breeding and overwintering water birds. 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 is required to ensure the Estuaries are appropriately managed. **Changes in species distribution** – Declines in the number of bird species present at Orwell coastline have occurred. This is likely to be the result of changes in population and distribution on an international scale, due to climate change. **Invasive species** – An increase in Spartina anglica may be affecting the growth of Spartina maritime, a key habitat feature for qualifying bird roosting and feeding areas of saltmarsh and mudflat. **Planning permission: General** – The issue of development in combination with other factors is not fully understood. To ensure management is appropriate to the SPA a better understanding of the sensitivities relating to each habitat, species and location to different types of	list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Limosa limosa islandica:* Black-tailed Godwit: • Habitat Preference – Marshy grassland and steppe, and on migration mudflats. • Diet - Insects, worms and snails, but also some plants, beetles, grasshoppers and other small insects during the breeding season. *Calidris alpina alpine:* Dunlin • Habitat Preference – Tundra, moor, heath, and on migration estuaries and coastal habitat. • Diet **-** Tundra, moor, heath, and on migration estuaries and coastal habitat. *Pluvialis squatarola:* Grey Plover

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		• 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*.		development is required. Difficult issues highlighted by the SIP 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 from 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. **Inappropriate coastal management** – Due to the presence of existing hard sea defences, such as sea walls there is little scope for adaptation to rising sea levels. Any freshwater habitats behind failing seawalls are likely to be inundated by seawater, which would result in the loss of this habitat within the SPA. **Fisheries: Commercial and estuarine** – Commercial fishing activities can be very damaging to inshore marine habitats and the bird species dependent on the communities they support. Any 'amber or green' categorised commercial fishing activities in European Marine Sites are assessed by Kent and Essex Inshore	• Habitat Preference – Tundra, and on migration pasture and estuaries. • Diet - In summer, invertebrates and in winter primarily marine worms, crustaceans and molluscs. *Anas acuta:* Pintail • Habitat Preference – Lakes, rivers, marsh & tundra • Diet - A variety of plants and invertebrates. *Tringa totanus:* Redshank • Habitat Preference – Rivers, wet grassland, moors and estuaries. • Diet - Invertebrates, especially earthworms, cranefly larvae (inland) crustaceans, molluscs, marine worms (estuaries). *Charadrius hiaticula:* Ringed Plover • Habitat Preference – Sandy areas with low vegetation, and on migration estuaries. • Diet - Mostly

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
				Fisheries Conservation Authority (IFCA). This assessment takes into account any in-combination effects of amber activities and/or appropriate plans or projects.	invertebrates, especially insects, molluscs and crustaceans. *Tadorna tadorna:* Shelduck • Habitat Preference – Coasts, estuaries and lakes. • Diet - Mostly invertebrates, especially insects, molluscs and crustaceans. *Arenaria interpres:* Turnstone • Habitat Preference – On migration beaches and rocky coasts. • Diet - Insects, crustaceans and molluscs. *Phalacrocorax carbo:* Cormorant • Habitat Preference – Larger lakes and coastal. • Diet - Fish. *Podiceps cristatus*: Great Crested Grebe • Habitat Preference – Reed-bordered lakes, gravel pits, reservoirs

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					and rivers. In the winter, they are also found along the coast. • Diet - Mostly fish, some aquatic invertebrates especially in summer. *Numenius arquata*: Curlew • Habitat Preference – Marsh, grassland and on migration mudflats. • Diet - Worms, shellfish and shrimps. *Branta bernicla bernicla:* Dark-bellied brent goose • Habitat Preference – Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. *Anas Penelope:* Wigeon • Habitat Preference – Marsh, lakes, open moor, on migration estuaries. • Diet - Mostly leaves, shoots, rhizomes and some seeds. *Bucephala clangula:* Goldeneye • Habitat Preference – Lakes, rivers, and on

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					migration seacoasts. • Diet - Insects, molluscs and crustaceans. *Haematopus ostralegus:* Oystercatcher • Habitat Preference – Sandy, muddy and rocky beaches. • Diet - Mussels and cockles on the coast, mainly worms inland. *Vanellus vanellus:* Lapwing • Habitat Preference – Pasture, arable land, wet meadow, on migration estuaries • Diet - Worms and insects. *Calidris canutus islandica:* Red knot • Habitat Preference – Tundra, and on migration coastal habitat. • Diet - In summer, insects and plant material, and in winter inter-tidal invertebrates, esp molluscs. *Calidris canutus:* Knot • Habitat Preference –

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					Coastal habitat. • Diet - Insects and plant material during the summer; and inter-tidal invertebrates, especially molluscs during the winter.
Stour and Orwell Estuaries Ramsar site	3676.92	Ramsar criterion 2 Contains seven nationally scarce plants: • Stiff saltmarsh-grass Puccinellia rupestris • Small cord-grass Spartina maritime • Perennial glasswort Sarcocornia perennis • Lax-flowered sea lavender Limonium humile • Eelgrasses Zostera angustifolia, Z. marina and Z. noltei. Ramsar criterion 5 • Assemblages of international importance; species with peak counts in winter; 63,017 waterfowl. Ramsar criterion 6 species/ populations occurring at levels of international importance: Species with peak counts in spring/autumn:	None available.	Similar to Stour and Orwell Estuaries SPA (See above). A key threat identified by RIS was erosion. **Erosion –** Natural coastal processes exacerbated by fixed sea defences, port development and maintenance dredging. Erosion is being tackled through sediment replacement for additional erosion that can be attributed to port development and maintenance dredging. A realignment site has been created on-site to make up for the loss of habitat due to capital dredging. General background erosion has not been tackled although a Flood Management Strategy for the site is being produced.	**Plants** Plant communities are reliant on the coastal habitats within the Ramsar site. These habitats are dependent on a range of coastal factors and processes, including salinity, sedimentation, sea level, turbidity and elevation. **Birds** Refer to Stour and Orwell Estuaries SPA above.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		• Common redshank, *Tringa totanus tetanus.* Species with peak counts in winter: • Dark-bellied brent goose, *Branta bernicla bernicla*; • Northern pintail, *Anas acuta*; • Grey plover, *Pluvialis squatarola;* • Red knot, *Calidris canutus islandica;* • Dunlin , *Calidris alpina alpina* • Black-tailed godwit, *Limosa limosa islandica;* • Common redshank, *Tringa totanus tetanus.*			
The Colne Estuary is located on the coast of Essex in eastern England. It is a comparatively short and branching estuary, with five tidal arms that flow into the main channel of the River Colne. The estuary has a narrow intertidal zone predominantly composed of flats of fine silt with mud-flat communities typical of south-eastern English estuaries. The estuary is of importance for a range of wintering wildfowl and waders, in addition to breeding Little Tern Sterna albifrons which nest on shell, sand and shingle spits. There is a wide variety of coastal habitats which include mud-flat, saltmarsh, grazing marsh, sand and shingle spits, disused gravel pits and reedbeds which provide feeding and roosting opportunities for the large numbers of waterbirds that use the site. The Colne Estuary is an integral component of the phased Mid-Essex Coast SPA					
Colne Estuary (Mid-Essex Coast Phase 2) SPA	2701.43	Annex I populations of the following species: During the breeding season - • Little Tern *Sterna albifrons* Over winter - • Avocet *Recurvirostra avosetta*	Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to	**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	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		• 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.	maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.	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 area of the Mid Essex Coast SPAs 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. **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. **Changes in species distributions** – Declines have occurred in the numbers of some of the waterbird species using the Essex Estuaries SIP area but these may be due to changes in their distributions or population levels at a national or continental scale, possibly	list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. Dark-bellied brent goose (Non-breeding); *Branta bernicla bernicla* • Habitat Preference – Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. Common pochard (Breeding); *Aythya ferina* • Habitat Preference – Lakes & slow rivers, and on migration also estuaries • Diet – Mostly plant material, also small animals. Hen harrier (Non-breeding); *Circus cyaneus* • Habitat Preference – Moor, marsh, steppe and fields.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
				linked to climate change. **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. Invasive common cord grass may adversely affect other species and habitats, including feeding and roosting areas of SPA bird species. **Fishing** – Recreational bait digging may impact waterbirds e.g. by reducing prey availability, or damaging the intertidal mudflats and sandflats and associated communities. The extent of the activity and potential impacts on site features are not currently well understood. Certain forms of commercial fishing, e.g. bottom towed fishing gear; can be very damaging to inshore marine habitats and the bird species dependent on the communities they support. **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	• Diet – Mainly small birds and mammals. Ringed plover (Breeding); *Charadrius hiaticula* • Habitat Preference – Sandy areas with low vegetation, and on migration estuaries. • Diet – In summer, invertebrates and in winter primarily marine worms, crustaceans and molluscs. Common redshank (Non-breeding); *Tringa tetanus* • Habitat Preference – Rivers, wet grassland, moors and estuaries. • Diet – Invertebrates, especially earthworms, cranefly larvae (inland) crustaceans, molluscs, marine worms (estuaries). Little tern (Breeding); *Sterna albifrons* • Habitat Preference – Seacoasts, rivers and lakes. • Diet – Small fish and invertebrates.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
				(elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.	
Colne Estuary (Mid-Essex Coast Phase 2) Ramsar site	2701.43	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 sequence of saltmarsh plant communities covering the range of variation in Britain. Ramsar criterion 5 Assemblages of international importance: Species with peak counts in winter: • 32041 waterfowl (5 year peak mean 1998/99-2002/2003) Ramsar criterion 6 Species/populations occurring at	None available.	Similar to Colne Estuary SPA (above).	**Habitat -** Saltmarsh habitat is reliant a range of coastal factors, in particular sedimentary and tidal processes which influence the pattern and development of vegetation. These factors influence the complex interdependent intertidal, subtidal and terrestrial habitats present along the coast. **Plants -** Plant communities are reliant on the coastal habitats within the Ramsar site. These habitats are dependent on a range of coastal factors and processes, including salinity, sedimentation, sea level, turbidity and elevation. **Invertebrates -** These species are reliant on the saltmarsh habitat and characteristic flora and fauna that are present within the European site. Key sources of food range from flowering plants, organic matter and other invertebrate species.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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.			**Birds -** Refer to Colne Estuary (Mid-Essex Coast Phase 2) SPA above. Consideration also needs to be given to black-tailed godwit, for which this Ramsar site is designated for; Black-tailed godwit *Limosa limosa islandica* • Habitat Preference – Marshy grassland and steppe, and on migration mudflats. • Diet – Insects, worms and snails, but also some plants, beetles, grasshoppers and other small insects during the breeding season.
This SPA crosses the 12 nautical mile boundary and therefore lies partly in territorial and partly in offshore waters; hence it is a site for which both Natural England and JNCC have responsibility to provide statutory advice. The SPA lies along the east coast of England in the southern North Sea and extends northward from the Thames Estuary to the sea area off Great Yarmouth on the East Norfolk Coast.					
Outer Thames Estuary SPA	379268.14	• *Gavia stellata*: Red-throated Diver	With regard to the SPA and pSPA and the individual species and/or assemblage of species for which the site has been or may be classified (the 'Qualifying Features' including the 'Additional Qualifying Features' listed below), and subject to natural change: Ensure that the integrity of the site is maintained or restored as	**Fisheries: Commercial marine and estuarine** – The gear types being assessed are towed demersal gear and dredges, and suction dredges for cockles as well as static/passive fishing gear methods such as set gillnets and drift netting represent potentially the most serious direct risk from fishing activity to the birds themselves. Disturbance and displacement effects	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			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.	may arise from boat movements associated with fishing activities. Removal of fish and larger molluscs can have a significant impact on the structure and functioning of benthic communities. Entanglement in static fishing nets is an important cause of death for red-throated divers in the UK waters. Netting is widespread across the sandbanks but is seasonal and occurs primarily when the Red-throated diver population is not at its peak. The scale of by-catch within the site has been assessed by the Kent & Essex IFCA, and was not found to be problematic and so can be deemed to be low-risk.	list of diets below). *Gavia stellata*: Red-throated Diver • Habitat preference - Shallow ponds & lakes. • Diet - Primarily fish, captured by seizing in the bill, also frogs and large invertebrates. *Sterna albifrons*: Little tern • Habitat Preference - Seacoasts, rivers and lakes. • Diet - Small fish and invertebrates. *Sterna hirundo*: Common tern • Habitat Preference – Sandy seacoasts, and in winter, marshes and estuaries. Diet - Mostly fish, also crustaceans in some areas, captured mostly by plunge-diving.
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.					
Abberton Reservoir SPA	726.2	Supports the following internationally important waterbird assemblage: • *Podiceps cristatus*; Great	With regard to the individual species and/or assemblage of species for which the site has been classified: • Avoid the deterioration of the	**Siltation** – high sediment load in reservoir inflow due to agricultural practices within catchment. **Public access / disturbance** – designated waterbirds are vulnerable	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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 ferina*; 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)	habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.	to human disturbance but well controlled by Essex & Suffolk Water; occasional trespassing and disturbance by low flying aircraft. **Planning permission: general** – potential future threat to designated waterbirds if farmland providing supporting habitat close to the SPA were lost to development; requires further study. **Changes in species distributions** – unexplained decline in designated population of cormorant. **Bird strike** – death of designated mute swans and possibly other species from collision with overhead powerlines near reservoir. **Water pollution** – Water stored in the reservoir is high in nutrients (eutrophic) as it comes from intensively farmed catchment areas. Resulting algal blooms may include toxic blue-green algae that can kill wildfowl, though no significant mortality has been recorded. Historically, increased water from the reservoir led to low water levels although no decrease in wildfowl was attributed to this. 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	habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Podiceps cristatus*; Great crested grebe (Non-breeding) • Habitat Preference – Reed-bordered lakes, gravel pits, reservoirs and rivers. In the winter, they are also found along the coast. • Diet – Mostly fish, some aquatic invertebrates esp in summer. *Phalacrocorax carbo*; Great cormorant (Breeding) • Habitat Preference – Larger lakes and coastal habitat. • Diet – Fish, mostly by diving from surface. *Cygnus olor*; Mute swan

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
				wetland habitat for the site's waterfowl. The Water Company has a consultative committee which addresses conservation issues at all its sites, and the Abberton Reserve Committee (involving Essex Wildlife Trust and EN) addresses local issues. **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.	(Non-breeding) • Habitat Preference – Lakes, ponds & rivers. • Diet – Aquatic vegetation (to 1m deep), also grazes on land; occasionally takes insects, molluscs, small amphibians. *Anas penelope*; Eurasian wigeon (Non-breeding) • Habitat Preference – Marsh, lakes, open moor, and on migration also estuaries. • Diet – Mostly leaves, shoots, rhizomes, also some seeds. *Anas strepera*; Gadwall (Non-breeding) • Habitat Preference – Marshes, lakes, and on migration also rivers and estuaries. • Diet – Leaves, shoots, mostly while swimming with head under water. *Anas crecca*; Eurasian teal (Non-breeding)

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					• Habitat Preference – Lakes, marshes, ponds & shallow streams. • Diet – Omnivorous, mostly seeds in winter, feeds mostly at night in shallow water. *Anas clypeata*; Northern shoveler (Non-breeding) • Habitat Preference – Shallow lakes, marsh, reedbed & wet meadow. • Diet – Omnivorous, esp. small insects, crustaceans, molluscs, seeds; filters particles with sideways sweeping of bill. *Aythya ferina*; Common pochard (Non-breeding) • Habitat Preference – Lakes & slow rivers, and on migration also estuaries. • Diet – Mostly plant material, also small animals. *Aythya fuligula*; Tufted duck (Non-breeding) • Habitat Preference – Marshes, lakes, and on migration also rivers,

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					estuaries. • Diet – Omnivorous, feeds on mud bottom mostly by diving. *Bucephala clangula*; Common goldeneye (Non-breeding) • Habitat Preference – Lakes, rivers, and on migration also seacoasts. • Diet – Insects, molluscs and crustaceans, mainly by diving. *Fulica atra*; Common coot (Non-breeding) • Habitat Preference – Lakes, marsh, rivers, and seacoast. Diet – Omnivorous, but mostly aquatic plants.
Abberton Reservoir Ramsar site	726.2	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*	None available.	Similar to Abberton Reservoir SPA (above).	Refer to Abberton Reservoir SPA above.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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*			
The Blackwater Estuary is a large estuary between the Dengie peninsula and Mersea Island on the Essex coast. It stretches from immediately adjacent to Maldon and about 8 km south of Colchester.					
Blackwater Estuary (Mid-Essex Coast Phase 4) SPA	4395.15	Qualifying Features (Waterbird assemblage): • *Branta bernicla bernicla*; Dark-bellied brent goose (Non-breeding) • *Aythya ferina*; Common	With regard to the individual species and/or assemblage of species for which the site has been classified: • Avoid the deterioration of the habitats of the qualifying features, and the significant	Similar to Colne Estuary SPA (above)	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below).

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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)	disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.		• Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. Dark-bellied brent goose (Non-breeding); *Branta bernicla bernicla* • Habitat Preference – Tundra, and on migration marshes and estuaries. • Diet – Vegetation, especially eel-grass. Common pochard (Breeding); *Aythya farina* • Habitat Preference – Open lakes and gravel pits in the summer and large lakes and estuaries during the winter. • Diet – Plants and seeds, snails, small fish and insects. Hen harrier (Non-breeding);

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					Circus cyaneus • Habitat Preference – Moor, marsh, steppe and fields. • Diet – Mainly small birds and mammals. Ringed plover (Breeding); *Charadrius hiaticula* • Habitat Preference – Sandy areas with low vegetation, and on migration estuaries. • Diet – In summer, invertebrates and in winter primarily marine worms, crustaceans and molluscs. Grey plover (Non-breeding); *Pluvialis squatarola* • Habitat Preference – Tundra, and on migration pasture and estuaries. • Diet – In summer, invertebrates and in winter primarily marine worms, crustaceans and molluscs. Dunlin (Non-breeding); *Calidris alpina alpine* • Habitat Preference – Tundra, moor, heath, and on migration

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					estuaries and coastal habitat. • Diet – Insects, snails and worms. Black-tailed godwit (Non-breeding); *Limosa limosa islandica* • Habitat Preference – Marshy grassland and steppe, and on migration mudflats. • Diet – Insects, worms and snails, but also some plants, beetles, grasshoppers and other small insects during the breeding season. Little tern (Breeding); *Sterna albifrons* • Habitat Preference – Seacoasts, rivers and lakes. • Diet – Small fish and invertebrates. Waterbird Assemblage – The waterfowl assemblage relies on a variety of habitats to support population numbers, including intertidal mudflats and sandflats, boulder and cobble shores, saltmarsh, seagrass beds and shallow

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					coastal waters
Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar site	4395.15	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	None available.	Similar to Colne Estuary SPA (above).	**Habitat -** Saltmarsh habitat is reliant a range of coastal factors, in particular sedimentary and tidal processes which influence the pattern and development of vegetation. These factors influence the complex interdependent intertidal, subtidal and terrestrial habitats present along the coast. **Invertebrates -** These species are reliant on the saltmarsh habitat and characteristic flora and fauna that are present within the European site. Key sources of food range from flowering plants, organic matter and other invertebrate species. **Birds -** Refer to Blackwater Estuary (Mid-Essex Coast Phase 4) SPA above for details on qualifying bird species.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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.*			
Dengie is located on the coast of Essex in eastern England. It is a large and remote area of tidal mud-flats and saltmarshes at the eastern end of the Dengie peninsula, between the adjacent Blackwater and Crouch Estuaries. The saltmarsh is the largest continuous example of its type in Essex. Foreshore, saltmarsh and beaches support an outstanding assemblage of rare coastal flora. It is of importance for wintering populations of Hen Harrier Circus cyaneus, wildfowl and waders. The formation of cockleshell spits and beaches is of geomorphological interest.					
Dengie (Mid-Essex Coast Phase 1) SPA	3127.23	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: Over winter - • Bar-tailed Godwit *Limosa lapponica*; • Hen Harrier *Circus cyaneus*. This site also qualifies under Article 4.2 of the Directive (79/409/EEC)	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	Similar to Colne Estuary SPA (above).	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		by supporting populations of European importance of the following migratory species: Over winter - • Grey Plover *Pluvialis squatarola* • Knot *Calidris canutus* Assemblage qualification: A wetland of international importance. The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl. Over winter, the area regularly supports 31,452 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: • Black-tailed Godwit *Limosa limosa islandica* • Dunlin *Calidris alpina alpina* • Lapwing *Vanellus vanellus*; • Oystercatcher *Haematopus ostralegus* • Dark-bellied Brent Goose *Branta bernicla bernicla* • Cormorant *Phalacrocorax carbo* • Great Crested Grebe *Podiceps cristatus*	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.		for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. Dark-bellied brent goose (Non-breeding); *Branta bernicla bernicla* • Habitat Preference - Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. Hen harrier (Non-breeding); *Circus cyaneus* • Habitat Preference - Moor, marsh, steppe and fields. • Diet - Mainly small birds and mammals. Grey plover (Non-breeding); *Pluvialis squatarola* • Habitat Preference - Tundra, and on migration pasture and estuaries. • Diet - In summer, invertebrates and in winter primarily marine worms, crustaceans

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		• Knot *Calidris canutus* • Grey Plover *Pluvialis squatarola* • Bar-tailed Godwit *Limosa lapponica.*			and molluscs. Red knot (Non-breeding); Calidris canutus • Habitat Preference - Tundra, and on migration coastal habitat. • Diet - In summer, insects and plant material, and in winter inter-tidal invertebrates, esp molluscs. Waterbird assemblage – This relies on a variety of habitats to support population numbers, including intertidal mudflats and sandflats, boulder and cobble shores (shingle and shell banks), and saltmarsh. The open coast nature of the site and the large continuous extent of the saltmarsh means that high tide roosts are spread across the length of the site with the waterbirds mainly using the seaward edge of the saltmarsh. However, on the highest spring tides the low saltmarsh is substantially immersed, and then the waterbirds are forced over

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					the seawall to roost and loaf on the fields beyond the borrow dyke. These arable fields are outside of the SPA boundary.
Dengie (Mid-Essex Phase 1) Ramsar site	3127.23	Ramsar criterion 1 Qualifies by virtue of the extent and diversity of saltmarsh habitat present. Dengie, and the four other sites in the Mid-Essex Coast Ramsar site complex, includes a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain. Ramsar criterion 2 Dengie supports a number of rare plant and animal species. The Dengie has 11 species of nationally scarce plants: • Sea kale Crambe maritime • Sea barley *Hordeum marinum* • Golden samphire *Inula* • Crithmoides • Lax flowered sea lavender *Limonium humile* • The glassworts *Sarcocornia perennis* and *Salicornia pusilla* • Small cord-grass Spartina maritime	None available.	Similar to Colne Estuary SPA (above).	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. Dark-bellied brent goose (Non-breeding); *Branta bernicla bernicla* • Habitat Preference - Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. Hen harrier (Non-breeding);

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		• Shrubby sea-blite Suaeda vera • The eelgrasses Zostera angustifolia, Z. marina and Z. noltei. The invertebrate fauna includes the following Red Data Book species: • a weevil *Baris* scolopacea • a horsefly Atylotus latistriatus • a jumping spider *Euophrys browning* Ramsar criterion 3 This site supports a full and representative sequence of saltmarsh plant communities covering the range of variation in Britain. Ramsar criterion 5 Assemblages of international importance: Species with peak counts in winter: • 43828 waterfowl (5 year peak mean 1998/99-2002/2003) Ramsar criterion 6 Species/populations occurring at levels of international importance. Qualifying Species/populations (as			*Circus cyaneus* • Habitat Preference - Moor, marsh, steppe and fields. • Diet - Mainly small birds and mammals. Grey plover (Non-breeding); *Pluvialis squatarola* • Habitat Preference - Tundra, and on migration pasture and estuaries. • Diet - In summer, invertebrates and in winter primarily marine worms, crustaceans and molluscs. Red knot (Non-breeding); Calidris canutus • Habitat Preference - Tundra, and on migration coastal habitat. • Diet - In summer, insects and plant material, and in winter inter-tidal invertebrates, esp molluscs. Waterbird assemblage – This relies on a variety of habitats to support population numbers,

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		identified at designation): Species with peak counts in winter: • Dark-bellied brent goose *Branta bernicla bernicla* • Grey plover *Pluvialis squatarola* • Red knot *Calidris canutus islandica*			including intertidal mudflats and sandflats, boulder and cobble shores (shingle and shell banks), and saltmarsh. The open coast nature of the site and the large continuous extent of the saltmarsh means that high tide roosts are spread across the length of the site with the waterbirds mainly using the seaward edge of the saltmarsh. However, on the highest spring tides the low saltmarsh is substantially immersed, and then the waterbirds are forced over the seawall to roost and loaf on the fields beyond the borrow dyke. These arable fields are outside of the SPA boundary.
The Deben Estuary is located on the coast of Suffolk in eastern England. It extends south-eastwards for over 12 km from the town of Woodbridge to the sea just north of Felixstowe. It is relatively narrow and sheltered, and has limited amounts of freshwater input. The estuary mouth is the narrowest section and is protected by the presence of shifting sandbanks. The intertidal areas are constrained by sea walls. The saltmarsh and intertidal mud-flats that occupy the majority of the site, however, display the most complete range of saltmarsh community types in Suffolk. The estuary holds a range of swamp communities that fringe the estuary, and occasionally form larger stands. In general, these are dominated by Common Reed Phragmites australis. The estuary is of importance for its wintering waterbirds, especially Avocet *Recurvirostra avosetta*.					
Deben Estuary SPA	978.93	• *Branta bernicla bernicla*: Dark-bellied brent goose; • *Recurvirostra avosetta*: Pied avocet	With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change: • Ensure that the integrity of the site is maintained or restored	**Coastal squeeze** – Examination of the quality of saltmarsh, rather than quantity (which had shown little change in extent) through a detailed vegetation mapping survey of saltmarsh habitats (carried out to the National Vegetation Classification (NVC) standard (Abrehart and Jackson 2013)) provides evidence of coastal	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			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.	squeeze. Results were compared with an earlier NVC study (Suffolk Wildlife Trust 1993) and indicated that there had been a widespread decline in the quality of saltmarsh, and an increase in lower marsh habitats at the expense of mid and upper marsh vegetation communities. This is indicative of coastal squeeze as changes result from more frequent inundation. Also, coastal squeeze on saltmarsh will affect mudflat areas as saltmarsh is lost and the estuary balance/function is altered. This may have effects on SPA birds as well. The developing policy of the Deben Estuary Partnership should have scope for natural adaption. **Public Access/Disturbance** – Increased recreational activity on the estuary could lead to increased levels of disturbance to wintering birds, to their detriment. Sources of disturbance include boats, canoes, jet skis, walkers and dogs, kite surfers, paramotorists, and low flying aircraft, etc. Shooting activity outside the site is unregulated and may be a significant source of disturbance to wintering birds. **Changes in species distribution** – There is a risk of Spartina anglica encroaching on estuarine muds. With Spartina at the front, and reed encroaching at the back, the saltmarsh could be squeezed out affecting the habitats of birds. **Air Pollution: risk of atmospheric nitrogen deposition** – Air pollution	populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. Dark-bellied brent goose (Non-breeding); *Branta bernicla bernicla* • Habitat Preference - Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. *Recurvirostra avosetta*: Pied avocet • Habitat Preference – mudflats, lagoons, sandy beaches. • Diet – invertebrates, especially insects, crustaceans, worms and small fish.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
				impacts on vegetation diversity. Aerial deposits of nitrogen may exceed the threshold limit (20 – 30 kg N ha-1 yr-1) above which the diversity of saltmarsh vegetation begins to be altered (possibly to reed) and adversely impacted. The impact on SPA birds is unclear. Many land use practices contribute to this issue including locally land spreading, outdoor pigs, high nutrient inputs on fields, etc. **Water Pollution** – Inappropriate water quality may impact on the supporting habitats of SPA birds. Eutrophication may be having an influence on reed growth and saltmarsh composition. Increased flood events could lead to habitat change/loss of diversity. Nutrient run off from farming operations could exacerbate the issue.	
Deben Estuary Ramsar site	978.93	Ramsar criterion 2 Supports a population of the mollusc Vertigo angustior (Habitats Directive Annex II (S1014); British Red Data Book Endangered). Martlesham Creek is one of only about fourteen sites in Britain where this species survives. Ramsar criterion 6 Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation):	None available.	Similar to Deben Estuary SPA (above).	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). *Vertigo angustior* • Habitat Preference – present in a wide range

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		Species with peak counts in winter: • Dark-bellied brent goose, *Branta bernicla bernicla*.			of habitats including maritime dune grassland and maritime or inland wetland (including fen, marsh, salt marsh and flood plain). The microhabitat in which it relies on is much rarer and is often altered by changes in hydrology, grazing, scrub encroachment, eutrophication and pesticides. • Diet – Filter feeders that rely on organisms freely floating in the water. In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					habitat. Dark-bellied brent goose (Non-breeding); *Branta bernicla bernicla* • Habitat Preference - Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass.
The Alde-Ore Estuary is located on the Suffolk coast in eastern England. It comprises the estuarine complex of the rivers Alde, Butley and Ore, including Havergate Island and Orfordness. There is a variety of habitats including intertidal mud-flats, saltmarsh, vegetated shingle (including the second-largest and best-preserved area in Britain at Orfordness), saline lagoons and semi-intensified grazing marsh.					
Alde-Ore Estuary SPA	2416.87	During the breeding season: • Avocet *Recurvirostra avosetta*; • Little Tern *Sterna albifrons*; • Marsh Harrier *Circus aeruginosus*; • Sandwich Tern *Sterna sandvicensis.* Over winter: • Avocet *Recurvirostra avosetta.* 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: During the breeding season: • Lesser Black-backed Gull *Larus fuscus*.	With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), 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	**Hydrological changes** – Flood wall breaches in December 2013 (due to tidal surge) has led to flooding of Hazelwood Marshes and Lantern Marshes south (both currently intertidal). This has lead to a loss of nesting habitat and saline lagoons. **Public Access/Disturbance** – Human disturbance to nesting birds on beaches, notably on Orfordness and Shingle Street, by people accessing the southern end of the ness by boat, plus walkers along beach from Aldeburgh, and recreational beach users at Shingle Street. Human trampling affects vegetated shingle habitat. Military and private aircraft (paramotors, helicopters and planes) regularly fly low over the site leading to disturbance of SPA features, wintering and breeding birds. **Coastal squeeze** – Seawalls afford	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Recurvirostra avosetta*;

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		Over winter: • Redshank *Tringa tetanus.* Assemblage qualification: A seabird assemblage of international importance. The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 seabirds During the breeding season, the area regularly supports 59,118 individual seabirds (Count period ongoing) including: Herring Gull Larus argentatus, Black-headed Gull *Larus ridibundus,* Lesser Black-backed Gull *Larus fuscus*, Little Tern *Sterna albifrons*, Sandwich Tern *Sterna sandvicensis*. • Assemblage qualification: A wetland of international importance. • The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl • Over winter, the area regularly supports 24,962 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: • Black-tailed Godwit *Limosa limosa islandica;* • Dunlin *Calidris alpina alpina*,	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.	little scope for natural adaption of the estuary to sea level rise through roll back of habitat. Saltmarsh is at risk of being squeezed in the future (although currently the estuary is perceived as in balance) and limited areas of natural habitat transition within the site could be lost. The developing policy of the Alde and Ore Estuary Partnership should consider scope for natural adaption to sea level rise. **Inappropriate pest control** - Fox predation/disturbance is a key issue for breeding birds on Orfordness, particularly Lesser black backed gulls. Foxes can cause gulls and other breeding birds to abandon nesting sites, and predate adult birds and chicks. **Changes in species distributions** – There are negative population trends in bird species using the site. Breeding locations are moving within and away from the designated site, possibly due to habitat change on site, as a reaction to other species and due to draw of other adjacent hinterland habitat. This requires further investigation and possible mitigation. **Invasive species** - Spartina is encroaching on estuarine muds. With Spartina at the front, and reed encroaching at the back, saltmarsh could be squeezed out. **Air Pollution: impact of atmospheric nitrogen deposition** – Air pollution impacts on vegetation	Avocet • Habitat Preference – mudflats, lagoons, sandy beaches. • Diet – invertebrates, especially insects, crustaceans, worms and small fish. *Sterna albifrons*; Little Tern • Habitat Preference - Seacoasts, rivers and lakes. • Diet - Small fish and invertebrates. *Circus aeruginosus*; Marsh Harrier • Habitat Preference – Marsh and reedbeds • Diet – Animals from ground, especially in marshy areas, preference for easily caught prey. *Sterna sandvicensis:* Sandwich Tern • Habitat Preference – Sandy seacoasts, and in winter estuaries. • Diet - Mostly fish by plunge-diving. *Larus fuscus*: Lesser Black-

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		Lapwing *Vanellus vanellus*, Shoveler *Anas clypeata*, Teal *Anas crecca*, Wigeon *Anas penelope*, Shelduck *Tadorna tadorna*, White-fronted Goose *Anser albifrons albifrons*, Redshank *Tringa totanus*, Avocet *Recurvirostra avosetta.*		diversity. Aerial deposits of nitrogen may exceed the site relevant critical load (20 – 30 kg N ha-1 yr-1) above which the diversity of saltmarsh vegetation begins to be altered (possibly to reed) and adversely impacted. Many land use practices contribute to this problem locally including land spreading, outdoor pigs, high nutrient inputs on fields. **Fisheries: Commercial marine and estuarine** – There are many different fishing pressures close to shore that may include bycatch of juvenile fish and disturbance of fish nursery areas that could potentially have an impact on Little tern Sterna Albifrons by reducing suitable feeding areas.	backed Gull • Habitat Preference - Seacoasts, lakes, rivers. • Diet - Omnivorous, often feeds at rubbish dumps or on shoals of fish. *Tringa tetanus:* Redshank • Habitat Preference – Rivers, wet grassland, moors and estuaries. • Diet – Invertebrates, especially earthworms, cranefly larvae (inland) crustaceans, molluscs, marine worms (estuaries). Larus argentatus: Herring Gull • Habitat Preferences - Seacoasts, lakes, rivers. • Diet – Omnivorous, but mostly animal material, also scavenges and pirates food. *Larus ridibundus* : Black-headed Gull • Habitat Preference - Lakes, rivers, moors, grassland, coasts.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					• Diet - Opportunist, insects, earthworms, also plant material and scraps. *Limosa limosa islandica:* Black-tailed Godwit • Habitat Preference - Marshy grassland and steppe, and on migration mudflats. • Diet - Insects, worms and snails, but also some plants, beetles, grasshoppers and other small insects during the breeding season. *Calidris alpina alpina* : Dunlin • Habitat Preference – Tundra, moor, heath, and on migration estuaries and coastal habitat. • Diet – Insects, snails and worms. *Vanellus vanellus:* Lapwing • Habitat Preference – Pasture, arable land, wet meadow, on migration estuaries • Diet - Worms and insects.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					Anas clypeata: Shoveler • Habitat Preference – Shallow lakes, marsh, reedbed & wet meadow. • Diet – Small insects and plant matter sifted from the water. *Anas crecca:* Teal • Habitat Preference – Lakes, marshes, ponds & shallow streams. • Diet – Seeds and small invertebrates. Wigeon: *Anas penelope*, • Habitat Preference – Marsh, lakes, open moor, on migration estuaries. • Diet – Mostly leaves, shoots, rhizomes and some seeds. *Tadorna tadorna:* Shelduck • Habitat Preference – Coasts, estuaries and lakes. • Diet – Mostly invertebrates, especially insects, molluscs and crustaceans. *Anser albifrons albifrons:*

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					White-fronted Goose • Habitat Preference – Tundra lakes, wet meadows on migration flooded fields & estuaries. • Diet – Plant material, incl. roots, tubers, shoots, leaves.
Alde-Ore Estuary Ramsar site	2546.99	Ramsar criterion 2 The site supports a number of nationally-scarce plant species and British Red Data Book invertebrates. Ramsar criterion 3 The site supports a notable assemblage of breeding and wintering wetland birds. Ramsar criterion 6 species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation): Species regularly supported during the breeding season: • Lesser black-backed gull, *Larus fuscus graellsii*; Species with peak counts in winter: • Pied avocet , *Recurvirostra*	None available.	Similar to Alde-Ore-Estuary SPA (above).	**Plants** Plant communities are reliant on the coastal habitats within the Ramsar site. These habitats are dependent on a range of coastal factors and processes, including salinity, sedimentation, sea level, turbidity and elevation. **Birds** Refer to Alde-Ore Estuary SPA above.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		avosetta; • Common redshank, *Tringa totanus tetanus.*			
Alde-Ore Estuary SAC	1632.63	• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) • Estuaries • Mudflats and sandflats not covered by seawater at low tide	With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), 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.	Similar to Alde-Ore-Estuary SPA (above). **Inappropriate coastal management** - Maintaining coastal defences at Bawdsey and Slaughden is leading to increased shingle recharge requirements at Slaughden, and loss of shingle beach at southern end of SAC at Bawdsey.	In general, the qualifying habitats of the SAC rely on: • A range of coastal factors, including salinity, sedimentation, sea level, turbidity and elevation, which influence the interdependent intertidal, subtidal and terrestrial habitats.
Orfordness - Shingle Street SAC	888	• Annual vegetation of drift lines • Perennial vegetation of stony	With regard to the SPA and the individual species and/or assemblage of species for which the	Similar to Alde-Ore-Estuary SPA (above). **Inappropriate coastal management**	In general, the qualifying habitats of the SAC rely on: • A range of coastal

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		banks • Coastal lagoons	site has been classified (the 'Qualifying Features' listed below), 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.	- Maintaining coastal defences at Bawdsey and Slaughden is leading to increased shingle recharge requirements at Slaughden, and loss of shingle beach at southern end of SAC at Bawdsey.	factors, including salinity, sedimentation, sea level, turbidity and elevation, which influence the interdependent intertidal, subtidal and terrestrial habitats.
Foulness is located on the coast of Essex, on the east coast of England north of the mouth of the Thames estuary. The site is part of an open coast estuarine system comprising grazing marsh, saltmarsh, intertidal mud-flats, cockle-shell banks and sand-flats. It includes one of the three largest continuous sand-silt flats in the UK. The diversity of high quality coastal habitats present support important populations of breeding, migratory and wintering waterbirds, notably very important concentrations of Dark-bellied Brent Goose *Branta bernicla bernicla*. Foulness is an integral component of the phased Mid-Essex Coast SPA					
Foulness (Mid-Essex Coast Phase 5) SPA	10968.9	This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the	With regard to the individual species and/or assemblage of species for which the site has been classified:	Similar to Colne Estuary SPA (above).	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		following species listed on Annex I of the Directive: During the breeding season: • Avocet *Recurvirostra avosetta;* • Common Tern *Sterna hirundo;* • Little Tern *Sterna albifrons*; • Sandwich Tern *Sterna sandvicensis;* Over winter; • Avocet *Recurvirostra avosetta;* • Bar-tailed Godwit *Limosa lapponica;* • 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: On passage: • Redshank *Tringa tetanus.* Over winter: • Dark-bellied Brent Goose *Branta bernicla bernicla;* • Grey Plover *Pluvialis*	• Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The populations of the qualifying features; • The distribution of the qualifying features within the site.		a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Charadrius hiaticula*: Ringed plover • Habitat Preference - Sandy areas with low vegetation, and on migration estuaries. • Diet - Summer, invertebrates, and in winter primarily marine worms, crustaceans and molluscs. *Pluvialis squatarola*: Grey plover • Habitat Preference - Tundra, and on migration pasture and estuaries. • Diet - In summer, invertebrates and in winter primarily marine

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		squatarola; • Knot *Calidris canutus*; • Oystercatcher *Haematopus ostralegus.* Assemblage qualification: A wetland of international importance. The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl Over winter, the area regularly supports 107,468 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: • Redshank *Tringa tetanus;* • Curlew *Numenius arquata*; • Black-tailed Godwit *Limosa limosa islandica;* • Dunlin *Calidris alpina alpine;* • Lapwing *Vanellus vanellus;* • Wigeon *Anas Penelope*; • Shelduck *Tadorna tadorna;* • Little Grebe *Tachybaptus ruficollis;* • Knot *Calidris canutus*; • Grey Plover *Pluvialis squatarola;* • Oystercatcher *Haematopus*			worms, crustaceans and molluscs. *Calidris canutus*: Red knot • Habitat Preference - Tundra, and on migration coastal habitat. • Diet - In summer, insects and plant material, and in winter inter-tidal invertebrates, esp molluscs. *Sterna sandvicensis*: Sandwich tern • Habitat Preference – Sandy seacoasts, and in winter estuaries. • Diet - Mostly fish by plunge-diving. *Sterna albifrons*: Little tern • Habitat Preference - Seacoasts, rivers and lakes. • Diet - Small fish and invertebrates. *Sterna hirundo*: Common tern • Habitat Preference – Sandy seacoasts, and in winter, marshes and estuaries.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		ostralegus; • Dark-bellied Brent Goose *Branta bernicla bernicla;* • Bar-tailed Godwit *Limosa lapponica;* • Golden Plover *Pluvialis apricaria;* • Avocet *Recurvirostra avosetta.*			• Diet - Mostly fish, also crustaceans in some areas, captured mostly by plunge-diving. *Limosa lapponica*: Bar-tailed godwit • Habitat Preference – Coastal tundra, and on migration, mudflats and flooded fields. • Diet - Invertebrates, esp insects, molluscs, crustaceans and worms. *Tringa totanus*: Common redshank • Habitat Preference – Rivers, wet grassland, moors and estuaries. • Diet - Invertebrates, especially earthworms, cranefly larvae (inland) crustaceans, molluscs, marine worms (estuaries). *Circus cyaneus*: Hen Harrier • Habitat Preference - Moor, marsh, steppe and fields. • Diet - Mainly small birds and mammals. *Haematopus ostralegus*:

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					Eurasian oystercatcher • Habitat Preference - Sandy, muddy and rocky beaches. • Diet - Mussels and cockles on the coast, mainly worms inland. *Recurvirostra avosetta*: Pied avocet • Habitat Preference - Mudflats, lagoons and sandy beaches. • Diet - Aquatic insects and their larvae, crustaceans and worms. *Branta bernicla bernicla*: Dark-bellied brent goose • Habitat Preference - Tundra, and on migration marshes and estuaries. • Diet - Vegetation, especially eel-grass. Waterbird Assemblage – The assemblage rely on the mosaic of intertidal habitats. Large areas of saltmarsh, tidal creeks, delphs, cockle banks and sandflats provide roosting and feeding habitats and the intertidal mud/sandy sediments

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					including eelgrass beds of the Thameside and tidal creeks provide a good supply of invertebrate prey and plant food.
Foulness (Mid-Essex Coast Phase 5) Ramsar	10932.95	Ramsar criterion 1 This site qualifies by virtue of the extent and diversity of saltmarsh habitat present. This and four other sites in the Mid-Essex Coast Ramsar site complex, include a total of 3,237 ha, that represent 70% of the saltmarsh habitat in Essex and 7% of the total area of saltmarsh in Britain. Ramsar criterion 2 The site supports a number of nationally-rare and nationally-scarce plant species, and British Red Data Book invertebrates. Ramsar criterion 3 The site contains extensive saltmarsh habitat, with areas supporting 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: • 82148 waterfowl (5 year peak	None available.	Similar to Colne Estuary SPA (above).	**Plants -** Plant communities are reliant on the coastal habitats within the Ramsar site. These habitats are dependent on a range of coastal factors and processes, including salinity, sedimentation, sea level, turbidity and elevation. **Invertebrates -** These species are reliant on the coastal habitat and characteristic flora and fauna that are present within the European site. Key sources of food range from flowering plants, organic matter and other invertebrate species. **Birds -** Refer to Foulness (Mid-Essex Coast Phase 5) SPA above.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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 spring/autumn: • Dark-bellied brent goose, *Branta bernicla bernicla*; • Eurasian oystercatcher, *Haematopus ostralegus ostralegus;* • Grey plover, *Pluvialis squatarola;* • Red knot, Calidris canutus islandica; • Bar-tailed godwit, *Limosa lapponica lapponica*			
The Sandlings SPA lies near the Suffolk coast between the Deben Estuary and Leiston. In the 19th century, the area was dominated by heathland developed on glacial sandy soils. During the 20th century, large areas of heath were planted with blocks of commercial conifer forest and others were converted to arable agriculture. Lack of traditional management has resulted in the remnant areas of heath which have survived successional changes and the consequent spread of bracken *Pteridium aquilinum*, shrubs and trees. The recent conservation management work, however, is resulting in their restoration. The heaths support both acid grassland and heather-dominated plant communities with dependent invertebrate and bird communities of conservation value. Woodlark *Lullula arborea* and Nightjar *Caprimulgus europaeus* have also adapted to breeding in the large blocks of conifer forest, using areas that have recently been felled and recent plantation, as well as areas managed as open ground.					
Sandlings SPA	3391.8	• *Caprimulgus europaeus*: European nightjar • *Lullula arborea*: Woodlark	With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change: • Ensure that the integrity of the	**Changes in species distribution** – Woodlark and Nightjar populations on the Suffolk coast have declined by 65% and 66% respectively since notification in 2001. **Inappropriate scrub control** – Scrub encroachment is reducing habitat	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			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.	suitability for Woodlark and Nightjar. Regular management is essential to maintain and restore the supporting heathland habitat to favourable condition. **Deer** – A large deer population exerting grazing pressure on habitats will affect quality of nesting habitat. There is also potential for deer to trample nests. **Air Pollution: impact of atmospheric nitrogen deposition** - Nitrogen deposition exceeds site relevant critical loads. **Public Access/Disturbance** - The need to understand recreational pressure and implement appropriate management is an ongoing issue. Recreational pressure could be increased by new housing developments in the area and by the potential displacement of visitors during the construction of Sizewell C.	populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Caprimulgus europaeus:* European nightjar • Habitat Preference – this species exclusively uses afforested land, including clear fells and young plantations for breeding; and open heathlands, grasslands and arable land for foraging. • Diet – Insects, especially moths and beetles. *Lullula arborea: W*oodlark • Habitat Preference – this species uses open grassland and heather heaths to breed; and grassland and arable land to forage. This species is also sometimes observed nesting along the

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
					margins of arable areas. • Diet - insects, including beetles, caterpillars and spiders during the breeding season and seeds during the winter.
The River Crouch and the River Roach are between the Dengie Peninsula and Southend-on-Sea in Essex, south-east England					
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA	1735.58	Site regularly supports over winter: • Dark-bellied brent goose, *Branta bernicla bernicla;* • Hen harrier, *Circus cyaneus.*	With regard to the individual species and/or assemblage of species for which the site has been classified: • Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive. Subject to natural change, to maintain or restore: • 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;	Similar to Colne Estuary SPA (above).	In general, the qualifying bird species of the SPA rely on: • The sites ecosystem as a whole (see list of habitats below). • Maintenance of populations of species that they feed on (see list of diets below). • Off-site habitat, which provide foraging habitat for these species. • Open landscape with unobstructed line of sight within nesting, foraging or roosting habitat. *Branta bernicla bernicla*: Dark-bellied brent goose • Habitat Preference - Tundra, and on migration marshes and estuaries.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			• The populations of the qualifying features; • The distribution of the qualifying features within the site.		• Diet - Vegetation, especially eel-grass. Waterbird Assemblage – Many of the assemblage species, including the majority of the waders, feed mainly or exclusively on exposed intertidal sediments and saltmarsh at low tide and congregate to roost at high tide on higher areas of saltmarsh or sometimes on adjacent grazing marshes. Other habitats of importance for assemblage species include, along the Crouch, mildly brackish lagoons at Saltcoats and Lower Raypits, fleets within grazing marshes at Marsh Farm and Blue House Farm and, north of the Roach, a fresh water reservoir adjacent to Stannetts Creek.
Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) Ramsar site	1735.58	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*;	None available.	Similar to Colne Estuary SPA (above).	**Plants -** Plant communities are reliant on the coastal habitats within the Ramsar site. These habitats are dependent on a range of coastal factors and processes, including salinity, sedimentation, sea level,

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		• sea barley *Hordeum marinum;* • golden-samphire *Inula crithmoides;* • laxflowered sea-lavender *Limonium humile*; • curved hard-grass *Parapholis incurve;* • Borrer's saltmarsh grass *Puccinellia fasciculate*; • 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*			turbidity and elevation. **Invertebrates -** These species are reliant on the coastal habitat and characteristic flora and fauna that are present within the European site. Key sources of food range from flowering plants, organic matter and other invertebrate species. **Birds -** Refer to Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA above.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
		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*.			
Staverton Park and The Thicks, Wantisden is broad-leaved deciduous woodland.					
Staverton Park and The Thicks, Wantisden SAC	84.28	• Old acidophilous oak woods with *Quercus robur* on sandy plains	With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), 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	**Forestry and woodland management** – Dense bracken in places prevents regeneration. **Disease** – Acute Oak Dieback is found at the site, other tree disease may be present **Public Access/Disturbance** – The site is accessed illegally, leading to an increased risk of damage and fires on the site. **Deer** – Deer browsing prevents regeneration in parts of the wood. **Hydrological Change** - A change in the water table could be leading to stress in the older trees. **Air Pollution: impact of atmospheric nitrogen deposition** – Nitrogen deposition exceeds site relevant critical loads. The impact is unclear, but this could be a	In general, qualifying habitat of the SAC rely on: • Key species to maintain the structure, function and quality of habitat. • Natural vegetation transitions to create diversity and support a range of species. • Habitat connectivity to the wider landscape to allow for migration, dispersal and genetic exchange of species typical of this habitat. • Active and ongoing conservation management to protect, maintain or restore these habitats.

Site Name	Area (ha)	Qualifying Features	Conservation objectives (only available for SACs & SPAs)	Key vulnerabilities / factors affecting site integrity	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend
			qualifying natural habitats, and • The supporting processes on which qualifying natural habitats rely.	contributing factor to the observed thick bracken which prevents regeneration of the wood.	More specific information has been provided for each qualifying habitat as follows: Old acidophilous oak woods with *Quercus robur* on sandy plains • Light grazing and browsing from herbivores, such as deer to promote diverse woodland structure and continuous seedling establishment.

Appendix 2
Screening Assessment Matrix

The screening matrix below shows which types of impacts on European sites could potentially result from each of the policies and sites allocated in the Local Plan. Where a site is not expected to have a particular type of impact, the relevant cell is shaded green. Where a site could potentially have a certain type of impact, this is shown in orange. The final column sets out the screening conclusions and the nature of potential significant effects if they were to arise.

Strategic Section 1 Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal is implemented	European site/s potentially affected	Could the proposal have Likely Significant Effects on European sites?
Policy SP 1: Presumption in Favour of Sustainable Development	None	N/A	N/A	No
Policy SP 2: Spatial Strategy for North Essex	Housing Development Employment Development Increase in vehicle use Increase in recreational activities Increase in water demand for abstraction and treatment	Physical loss/damage Non-physical disturbance Non-toxic contamination Increased air pollution Disturbance from recreation. Change in water quantity and increased water pollution.	Essex Estuaries SAC Hamford Water SAC Hamford Water SPA and Ramsar Stour and Orwell Estuaries SPA and Ramsar Colne Estuary (Mid-Essex Coast Phase 2) SPA and Ramsar Abberton Reservoir SPA and Ramsar Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar	Likely in relation to recreation. Uncertain in relation to loss of habitat and water

Strategic Section 1 Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal is implemented	European site/s potentially affected	Could the proposal have Likely Significant Effects on European sites?
Policy SP 3: Meeting Housing Needs	43,765 new housing Increase in vehicle use Increase in recreational activities Increase in water demand for abstraction and treatment	Physical loss/damage Non-physical disturbance Non-toxic contamination Increased air pollution Disturbance from recreation. Change in water quantity and increased water pollution.	As SP2	As SP2
Policy SP 4: Providing for Employment and Retail	139.1ha Employment land Increased vehicle traffic Increased demand for water abstraction and treatment	Increased air pollution. Change in water quantity and increased water pollution.	Stour and Orwell	Uncertain
Policy SP 5: Infrastructure and Connectivity	None – sets criteria for provision of appropriate infrastructure alongside development	This policy sets out criteria to improve infrastructure and provide sufficient sustainable modes of transport, which may provide mitigation for impacts relating to air pollution. This	N/A	No

Strategic Section 1 Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal is implemented	European site/s potentially affected	Could the proposal have Likely Significant Effects on European sites?
		mitigation measure was not accounted for at the Screening Stage.		
Policy SP 6: Place Shaping Principles	None – sets out principles for new development	Two principles have the potential to mitigate impacts in relation to recreation and air pollution, through the provision of alternative public open space and green infrastructure, and creation of well-connected paces which priorities sustainable modes of transport. This mitigation measure was not accounted for at the Screening Stage.	N/A	No
Policy SP 7: Development and delivery of new garden communities in North Essex	Housing Development Employment Development Increase in vehicle use Increase in recreational activities Increase in water	Physical loss/damage Non-physical disturbance Non-toxic contamination Increased air pollution Disturbance from recreation.	As SP2	As SP2

Strategic Section 1 Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal is implemented	European site/s potentially affected	Could the proposal have Likely Significant Effects on European sites?
	demand for abstraction and treatment	Change in water quantity and increased water pollution.		
Policy SP 8: Tendring and Colchester Borders garden community	Housing Development Employment Development Increase in vehicle use Increase in recreational activities Increase in water demand for abstraction and treatment	Physical loss/damage Non-physical disturbance Non-toxic contamination Increased air pollution Disturbance from recreation. Change in water quantity and increased water pollution.	As SP2	As SP2
Policy SP 9: West of Colchester / East Braintree new garden community	Housing Development Employment Development Increase in vehicle use Increase in recreational activities Increase in water demand for abstraction and treatment	Physical loss/damage Non-physical disturbance Non-toxic contamination Increased air pollution Disturbance from recreation. Change in water quantity and increased water pollution.	As SP2	As SP2

Strategic Section 1 Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal is implemented	European site/s potentially affected	Could the proposal have Likely Significant Effects on European sites?
Policy SP 10: West of Braintree new garden community	Housing Development Employment Development Increase in vehicle use Increase in recreational activities Increase in water demand for abstraction and treatment	Physical loss/damage Non-physical disturbance Non-toxic contamination Increased air pollution Disturbance from recreation. Change in water quantity and increased water pollution.	As SP2	As SP2

Appendix 3

Review of other plans and projects for in-combination effects

Babergh Core Strategy & Policies (2011-2031) Local Plan[27]	
Plan Owner/ Competent Authority:	Babergh District Council
Related work HRA/AA:	Core Strategy Submission Draft HRA Screening Report September 2011[28]
Notes on Plan documents:	Local Plan was adopted in February 2014. Provision for 5,975 new dwellings and employment space to accommodate 9,700 new jobs during 2011-2031. Employment and housing growth will be accommodated within Babergh's existing settlement pattern and in new mixed and balanced communities on the edges of the towns and the Babergh Ipswich Fringe.

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

The HRA screening suggests that Babergh will primarily need to ensure the impacts on the Stour and Orwell estuaries are monitored, as other European sites which could potentially be affected will be monitored by other councils

The following types of potential Likely Significant Effect were identified:

Water resources and quality: Provided the recommendations of the Water Cycle Study are incorporated into the Core Strategy, Likely Significant Effects as a result of changes in water resources or quality are not predicted.

Wind turbines: Provided the recommendations are followed to make it clear that development supported by Policy CS9 must still meet other requirements for sustainability, including protection of European sites, Likely Significant Effects are not predicted.

Coastal processes: Coastal squeeze has been identified as an issue at some locations along the Stour and Orwell Estuaries SPA / Ramsar site in Natural England monitoring records; however development close to the coast is not suggested outside existing built up areas. Therefore indirect effects through increased coastal squeeze are not predicted as a result of the Core Strategy.

Recreational pressure: Recreational use of the estuaries can result in disturbance of wintering birds. Babergh District Council is contributing to the wider mitigation strategy under the Haven Gateway Green Infrastructure Strategy and has made provision for new public open space at key sites close to the estuaries. As a precautionary approach is proposed this provides Babergh Council with the opportunity to take additional action if unexpected increases in disturbance occur. Therefore, subject to the mitigation strategy Likely Significant Effects would not be predicted.

Core Strategy of the Suffolk Coastal District Local Plan[29]	
Plan Owner/ Competent Authority:	East Suffolk Council
Related work HRA/AA:	Appropriate Assessment of Suffolk Coastal District Council Core Strategy and Development Management Policies[30]
Notes on Plan documents:	On the 1st April 2019, East Suffolk Council was created, covering former districts Suffolk Coastal District Council and Waveney District Council. The Local Plan from the former council still applies and covers the area of Suffolk Coastal District Council. Development provided for includes up to 11,000 new houses between 2001 and 2021 and 8000 new jobs between 2001 and 2027.

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

The HRA concluded that policy SP2: Housing Numbers would have an adverse effect upon the integrity of a number of European sites along the Suffolk Coast and Heath alone and in-combination as a result of increased visitor pressure in-

[27] http://www.babergh.gov.uk/planning-and-building/planning-policy/local-babergh-development-framework/core-strategy-and-policies-dpd/

[28] http://www.babergh.gov.uk/planning-and-building/planning-policy/local-babergh-development-framework/core-strategy-and-policies-dpd/core-strategy-consultations/

[29] https://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/Core-Strategy-and-DMP/SCDC-Local-Plan-July-2013.pdf

[30] https://www.eastsuffolk.gov.uk/assets/Planning/Suffolk-Coastal-Local-Plan/Core-Strategy-and-DMP/AA-Report-Nov-2011.pdf

Core Strategy of the Suffolk Coastal District Local Plan[29]
combination with the Ipswich Borough Core Strategy and Policies. Mitigation is proposed which, if implemented, would reduce the adverse effect to an insignificant level and would enable a conclusion that it can be ascertained that there will be no adverse effect upon the integrity of any European site.

Maldon District Local Development Plan	
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 Maldon District Local Development Plan was submitted to the Secretary of State for Examination-in-Public on 25 April 2014. Development provided for in the Draft Plan includes at least 4,410 dwellings during 2014-2029.
Conclusions on potential effects of relevance to European sites within scope of HRA of Braintree Local Plan	
The HRA Screening Assessment on the potential for likely significant effects on the Blackwater Estuary SPA and Ramsar; Colne Estuary SPA and Ramsar; Crouch and Roach Estuaries SPA and Ramsar; Dengie SPA and Ramsar, and Essex Estuaries SAC, for the Maldon District Post Examination Local Development Plan policies concluded that there will be no significant adverse effects on the integrity of these international sites alone or in-combination.	

South Cambridgeshire Local Plan	
Plan Owner/ Competent Authority:	South Cambridgeshire District Council
Related work HRA/AA:	South Cambridgeshire Local Plan Submission Habitats Regulations Assessment[31]
Notes on Plan documents:	The South Cambridgeshire Local Plan was adopted on 27 September 2018. Development provided for in the Draft Plan includes 19,000 new homes and 22,000 additional jobs between 2011 to 2031.
Conclusions on potential effects of relevance to European sites within scope of HRA of Braintree Local Plan	
The following types of potential Likely Significant Effect were identified: Water Quantity and Quality: increased demand for water supply, sewage discharge and surface run-off was identified as potential impacts to European sites including Ouse Washes SPA, Breckland SAC / SPA, Fenland SAC and Portholme SAC. Negotiations between Anglian Water and Environment Agency, along with investigations by the Environment Agency and existing infrastructure it is considered sufficient to prevent Likely Significant Effects to these Europeans sites. In addition to this, the promotion of Northstowe greenfield site as an Eco-town is likely to minimise impacts in relation to Ouse Washes SPA and provision of a Water Level Management Plan will provide appropriate mitigation for Portholme SAC. Recreational pressure: Numbers were not considered to significantly change at Eversden and Wimpole Woods SAC, Devils Dyke SAC as a result of increased housing in the District. For Fenland SAC, the HRA highlighted the potential need restrict access to this site, and any recreational activities within, may need to be controlled Overall, no Likely Significant Effects were identified. In addition to this, the modification of housing policy H/1 to include three small-scale Parish-led residential allocations in Great Abington and Little Abington, and one small scale Parishled residential allocation in Graveley was found to have no Likely Significant Effects. The HRA concluded no Likely Significant Effects either alone or in combination with other plans and projects on European sites identified in the assessment.	

[31] https://www.scambs.gov.uk/sites/default/files/documents/HRA%20Screening_0.pdf

Uttlesford District Council Regulation 19 Local Plan[32]	
Plan Owner/ Competent Authority:	Uttlesford District Council
Related work HRA/AA:	Uttlesford District Council Habitats Regulations Assessment (2018)
Notes on Plan documents:	A local Plan was submitted and subsequently withdrawn in 2014. A revised pdf icon Local Development Scheme was approved by the Cabinet on 16 February 2016 with the draft Plan, including allocation of sites and supporting policies, due to be published in October 2016. Development provided for in the Plan includes 11,500 new homes and 1,900 new jobs between 2011 and 2031.
Conclusions on potential effects of relevance to European sites within scope of HRA of Braintree Local Plan	
The HRA concluded that there were no Likely Significant Effects (namely Epping Forest SAC) in relation to the Focused Changes of the Regulation 19 Local Plan. No recommendations are made and no further Appropriate Assessment is required.	

Core Strategy Development Plan [33] and Joint development management policies[34]	
Plan Owner/ Competent Authority:	St Edmundsbury Borough Council (now forms part of the West Suffolk Council)
Related work HRA/AA:	Habitats Regulations Assessment of St Edmundsbury Core Strategy[35] Habitats Regulations Assessment of Development Management Policies Document[36]
Notes on Plan documents:	Core Strategy was adopted in December 2010. Following this, a Joint Development Management Policies Document was produced with Forest Heath District Council in February 2015. Development provided for in the Core Strategy and Policies document includes
Conclusions on potential effects of relevance to European sites within scope of HRA of Braintree Local Plan	
Core Strategy Development Plan Four policies were identified in the Core Strategy with potential to impact European sites. This included CS1: St Edmundsbury Spatial Strategy, CS9: Employment and the Local Economy, CS11: Bury St Edmunds Strategic Growth and CS12: Haverhill Strategic Growth. These policies were found to have potential to affect Breckland SAC/SPA and Waveney and Little Ouse Valley Fens SAC in relation to recreational pressure and air pollution. The policies within the Plan are at a strategic level with exact details on location, design and/or when (or if) these sites will be constructed upon was not known. Follow on lower tier Development Plan Documents (DPDs) for Policies CS1, CS9, CS11 and CS12 including Bury St Edmunds Area Action Plan (AAP), Haverhill AAP and Site Allocations DPDs (including Rural Allocation Sites and the Gypsy and Travellers sites), which will provide more detail. The plan commits to an HRA being carried out at the development control stage/lower tier development plan stage for any development arising out of these policies. *Development Management Policies* The HRA identified 24 of the 50 policies with potential for development. Overall, it concluded no Likely Significant Effects on the Breckland SAC or the Breckland SPA, Waveney and Little Ouse SAC, Devils Dyke SAC, Rex Graham Reserve SAC alone or in-combination with other plans and policies.	

[32] http://www.uttlesford.gov.uk/CHttpHandler.ashx?id=3640&p=0
[33] http://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/Core-Strategy-December-2010.pdf
[34] http://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/JDMPD-FINAL-for-website-R.pdf
[35] http://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/SEBC-Core-Strategy-HRA-December-2010.pdf
[36] http://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/JDMPD-HRA-Screening.pdf

Chelmsford Local Plan	
Plan Owner/ Competent Authority:	Chelmsford City Council
Related work HRA/AA:	Habitat Regulations Assessment: Initial Scoping of Local Plan Appropriate Assessment of the Chelmsford Core Strategy and Development Control Policies Submission Document DPD November 2006 Core Strategy and Development Control Policies Focused Review Sustainability Appraisal Report and HRA Screening Final Report February 2013
Notes on Plan documents:	Chelmsford City Council are currently in the process of producing a new local plan. Development provided for includes 16,170 new houses during 2001-2021.

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

The HRAScoping Report of the new Local Plan concluded the following potential impacts:

- Coastal squeeze, specifically with regard to those sites associated with the Crouch and Roach estuaries.
- Water quality changes affecting for downstream sites, specifically those associated with the Blackwater estuary and the Crouch and Roach estuaries. Although, it is expected that effects can be reliably avoided with appropriate co-ordination of development and infrastructure upgrades, and the use of robust planning policies to ensure this.
- Water supply pressures on Abberton Reservoir associated with growth in Chelmsford, although the current operational parameters and the modelling provisions of the Essex and Suffolk WRMP arguably make this unlikely. It is expected that effects can be reliably avoided with appropriate co-ordination of development and infrastructure upgrades, and the use of robust planning policies to ensure this.
- Recreational pressure in combination with other plans, particularly with regard to those sites associated with the Blackwater estuary and the Crouch and Roach estuaries.

The HRA Screening of the Submission DPD identified Likely Significant Effects from four development control policies:

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

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

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

Ipswich Local Plan 2011-2031[37]	
Plan Owner/ Competent	Ipswich District Council

[37] https://www.ipswich.gov.uk/content/new-ipswich-local-plan-2011-2031

Ipswich Local Plan 2011-2031[37]	
Authority:	
Related work HRA/AA:	Habitat Regulation Assessment of Pre-Submission modifications to the Ipswich Borough Council Core Strategy and Policies DPD Review (Proposed Submission stage)[38] Habitats Regulations Assessment of Pre-Submission modifications to the Ipswich Borough Council Site Allocations and Policies (incorporating IP-One Area Action Plan) DPD – (Proposed Submission)[39]
Notes on Plan documents:	The Ipswich Local Plan, which comprises Core Strategy and Policies Development Plan Document (DPD) Review and Site Allocations and Policies was submitted to the Secretary of State for examination. The revised Local Development Scheme was approved by the Council on 27th February 2019 and came into effect on 19th March 2019. Development provided for includes 13,550 new houses and 12,500 new jobs by 2031.

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

HRA of Pre-Submission modifications to the Ipswich Borough Council Core Strategy and Policies DPD Review

Policy CS7: The Amount of Housing Required was identified with potential to result in Likely Significant Effects as a result of an amendment to the policy, which could potentially change the amount and location of housing required and therefore change the impact of housing growth on European sites. The policy however was amended and found to have no Likely Significant Effect on European sites.

No plans with exception to Ipswich Borough Site Allocations and Policies were found to have Likely Significant Effect, which was submitted for consultation alongside the Proposed Submission Core Strategy and Policies Development Plan Document Review consultation.

Habitats Regulations Assessment of Pre-Submission modifications to the Ipswich Borough Council Site Allocations and Policies DPD

Policy SP2: Land allocated for housing and policies map was identified with potential for Likely Significant Effects, due to planning permission, which have lapsed and, which were at the time of consultation of the Proposed Submission DPD included in policy SP3 have been moved to policy SP2. A review of all sites moved to policy SP2 as a Pre-Submission Main Modification were identified outside the area within which residents of housing walk to Orwell Country Park, which could affect the Stour and Orwell SPA/Ramsar and was therefore found to have no Likely Significant Effect and remained in line with conclusions of the December 2014 Appropriate Assessment.

All Pre-Submission Main Modifications and Pre-Submission Additional Modifications to the Ipswich Borough Council Site Allocations and Policies DPD were found not likely to have a significant effect on any European site and it was concluded that there is no change to the conclusions of the Appropriate Assessment (December 2014) submitted for consultation alongside the Development Plan Document consultation.

Braintree Section 2 Local Plan	
Plan Owner/ Competent Authority:	Braintree District Council
Related work HRA/AA:	Habitat Regulations Assessment of Braintree Local Plan
Notes on Plan documents:	The New Local Plan was submitted to the Planning Inspectorate on 9th October 2017. Section 1 is currently under examination by a Planning Inspector.

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

The Braintree Section 2 HRA concluded at the Screening stage that there was potential for Likely Significant Effects on the Colne Estuary SPA/Ramsar, Essex Estuaries SAC, and Blackwater Estuary SPA/Ramsar as a result of the effect of recreational impacts in-combination with the Tendring District Section 2 Local Plan, Colchester Borough Section 2 Local Plan, and the Shared Strategic Section 1 Local

[38] https://www.ipswich.gov.uk/sites/default/files/sucd12_-_core_strategy_hra_addendum_sept_2015.pdf
[39] https://www.ipswich.gov.uk/sites/default/files/sucd14_-_site_allocations_hra_addeundum_sept_2015.pdf

Braintree Section 2 Local Plan

Plan.

The Appropriate Assessment stage identified whether the above Likely Significant Effects would, in light of mitigation and avoidance measures, result in adverse effects on the integrity of the European sites as a result of the in-combination effects identified. Where necessary, suitable mitigation measures and modified policy wording was provided which would enable a sufficient level of certainty to conclude no Adverse Effect on Integrity (AEoI).

The key recommendation made in the HRA report was for a Recreational disturbance Avoidance and Mitigation Strategy (RAMS) to be prepared jointly by the North Essex Authorities to mitigate the effect of recreational pressures on the above European Sites. As detailed in Section6, an Essex Coast RAMS has now been prepared. The Braintree Section 2 HRA concluded that, providing the key recommendations and mitigation requirements were implemented there would be no adverse effect on the Colne Estuary SPA/Ramsar, Essex Estuaries SAC, and Blackwater Estuary SPA/Ramsar, either alone or in-combination with other plans and projects.

Colchester Section 2 Local Plan

Plan Owner/ Competent Authority:	Colchester District Council
Related work HRA/AA:	Habitat Regulations Assessment of Colchester Local Plan
Notes on Plan documents:	Following the hearing sessions held in January and May the Council has now received a letter back from the Inspector with his initial comments.

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

The Colchester Section 2 HRA concluded that the throughout the HRA process the LPA addressed the strategic issues and has highlighted relevant issues for the development management stage. It concluded, subject to the implementation of certain safeguards and avoidance measures that adverse effects on the integrity of European sites would be avoided or mitigated. Such measures included implementation of a RAMS; and a commitment to mitigation and phasing of the Tendring Colchester Borders Garden Community within the Section 1 Strategic Plan dependent on the findings of bird surveys.

This will need to take into account the cumulative numbers of SPA birds affected as parcels of land come forward for development. In the unlikely but possible event that cumulative numbers of SPA birds affected are likely to exceed thresholds of significance (i.e. >1% of the associated European Site), appropriate mitigation in the form of habitat creation and management in perpetuity, either on-site or through provision of strategic sites for these species elsewhere, will be required. It specified that, if required, mitigation will need to create and manage suitably located habitat which maximises feeding productivity for these SPA species, and such mitigatory habitat would need to be provided and fully functional prior to development which would affect significant numbers of SPA birds.

It recognised and committed to a need to delay the commencement of development in Langham until there is adequate capacity in the waste water and sewage infrastructure to serve the development.

The overall conclusion of the Colchester Section 2 Local Plan HRA was that the LPA as competent authority under the Habitat Regulations was able to conclude that Section 2 of the Local Plan would not adversely affect the integrity of European sites either alone or in-combination.

Tendring Section 2 Local Plan	
Plan Owner/ Competent Authority:	Tendring District Council
Related work HRA/AA:	Habitat Regulations Assessment of Tendring Local Plan
Notes on Plan documents:	On 9 October 2017 Tendring District Council, along with Braintree and Colchester Councils, submitted their Local Plans and accompanying documents to the Planning Inspectorate.

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

The Tendring Draft Local Plan Section 2 HRA concluded at the Screening stage, that Likely Significant Effects on European sites, either alone or in combination with other policies and proposals, could not be ruled out in relation to:

- Physical loss/damage on Abberton Reservoir SPA/Ramsar (offsite only), Blackwater Estuary SPA/Ramsar (offsite only), Hamford Water SAC (offsite only), Hamford Water SPA/Ramsar (offsite only), Stour and Orwell Estuaries SPA/Ramsar (direct and offsite habitat loss), and Colne Estuaries SPA and Ramsar (offsite only).
- Recreational Impacts – Essex Estuaries SAC, Hamford Water SAC, Hamford Water SPA/Ramsar, Stour and Orwell Estuaries SPA and Ramsar, and Colne Estuary SPA/Ramsar.
- Water quality – Essex Estuaries SAC, Stour and Orwell Estuaries SPA/Ramsar, Colne Estuary SPA/Ramsar.
- Non-toxic contamination – Stour and Orwell Estuaries SPA/Ramsar.
- Non-physical disturbance – Stour and Orwell Estuaries SPA/Ramsar.

The HRA advocated the approach to avoidance and mitigation being taken by Tendring District Council in addressing the key issues, particularly with regards to working alongside the other North Essex Authorities in relation to strategic growth. The HRA concluded that subject to specific policy safeguards and providing that additional mitigation measures and safeguards in relation to policies SAE5 and SAE6 were adopted and successfully implemented, it was concluded that there would be no adverse effects on European sites either alone or in-combination. Natural England in its role as the Statutory Consultee for the HRA, has confirmed that it supports these conclusions.

Wivenhoe Neighbourhood Plan 2019-2033[40]	
Plan Owner/ Competent Authority:	The Wivenhoe Neighbourhood Plan Group
Related work HRA/AA:	HRA Screening Assessment of Wivenhoe Neighbourhood Plan
Notes on Plan documents:	The Neighbourhood Plan was approved in a Referendum held on 2 May 2019. The Neighbourhood Plan will now be made part of Colchester Borough Council's local development plan.

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

The HRA considered the potential impacts on recreation, loss of agricultural land and impacts to water courses. Following a detailed assessment, it was concluded that there were no likely significant effects on any European sites

[40] http://wivenhoeneighbourhoodplan.org.uk/wp-content/uploads/2019/03/WNP-Final-Report-Referendum-Version-1.pdf

Wivenhoe Neighbourhood Plan 2019-2033[40]
identified and therefore did not require a full Habitat Regulations Assessment.