



# Castle Point Plan Regulation 19 **Habitats Regulations Assessment** including Appropriate Assessment

10<sup>th</sup> July 2025



Essex County Council



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# Contents

|  |           |
|--|-----------|
| <b>Contents</b>  | <b>5</b>  |
| <b>Summary</b>   | <b>10</b> |
| <b>1.Introduction</b>  | <b>16</b> |
| 1.1 The Purpose of This Report   | 16        |
| 1.2 Overview of the Castle Point Plan  | 18        |
| 1.3 Habitats (European) Sites  | 19        |
| <b>2.Method and Approach</b>   | <b>21</b> |
| 2.1 Four Stage Approach  | 21        |
| Stage 1 - Screening  | 21        |
| Stage 2 - Appropriate Assessment (AA)  | 21        |
| Stage 3 - Assessment of Alternative Solutions  | 22        |
| Stage 4 - Imperative Reasons of Overriding Public Interest and Compensatory Measures                       | 22        |
| 2.2 Screening Methodology - Assessment of Likely Significant Effects                                       | 26        |
| 2.3 Castle Point Draft Local Plan Regulation 18 Consultation   | 30        |
| 2.4 Identifying potential effects to a Habitats site from Castle Point Plan and use of Impact Pathways.    | 31        |
| 2.5 Screening Categorisation   | 43        |
| <b>3.Screening of Likely Significant Effects</b>   | <b>45</b> |
| 3.1 Summary of the Scoping Process Screening for Likely Significant Effect                                 | 45        |
| 3.2 Summary of the Scoping process Screening for Likely Significant Effect                                 | 47        |
| 3.3 Policies carried forward to Appropriate Assessment Stage   | 53        |
| 3.4 Habitats Sites within Scope for Appropriate Assessment   | 53        |
| 3.5 HRA Screening Conclusion and Considering the Next Stage  | 65        |
| <b>4.The Appropriate Assessment process and Considering Adverse Effects on Integrity of Habitats Sites</b> | <b>67</b> |
| 4.1 Introduction and Outline Methodology   | 67        |
| 4.2 Policies / Allocations screened in and Habitats Sites within Scope                                     | 68        |
| 4.3 Use of Mitigation Measures, Court Judgements and their consideration in this Report                    | 70        |
| 4.4 Applying the Integrity Test  | 73        |
| 4.5 In Combination Effects with other Plans and Projects   | 73        |
| 4.6 Embedding Mitigation into the Castle Point Plan  | 74        |
| 4.7 Re-applying the Integrity Test   | 75        |



|            |   |            |
|------------|---|------------|
| <b>4.8</b> | <b>Monitoring</b>   | <b>75</b>  |
| <b>4.9</b> | <b>Consulting Natural England</b>   | <b>76</b>  |
| <b>5.</b>  | <b>Undertaking the Appropriate Assessment</b>                             | <b>77</b>  |
| <b>5.1</b> | <b>Summary of the Screening Assessment</b>                                | <b>77</b>  |
| <b>5.2</b> | <b>Land Take</b>  | <b>78</b>  |
| <b>5.3</b> | <b>Impacts upon Qualifying species outside the designated site</b>        | <b>88</b>  |
| <b>5.4</b> | <b>Disturbance</b>  | <b>109</b> |
| <b>5.5</b> | <b>Other Forms of Disturbance (Non-Recreational Disturbance)</b>          | <b>126</b> |
| <b>5.6</b> | <b>Water Quality</b>  | <b>150</b> |
| <b>5.7</b> | <b>Water Quantity</b>   | <b>198</b> |
| <b>5.8</b> | <b>Air Quality</b>  | <b>205</b> |
| <b>5.9</b> | <b>Assessment of Impacts in Combination with Other Plans and Projects</b> | <b>235</b> |
| <b>6.</b>  | <b>Recommendations</b>  | <b>259</b> |
| <b>7.</b>  | <b>Conclusion</b>   | <b>271</b> |
| <b>8.</b>  | <b>References</b>   | <b>273</b> |
| <b>9.</b>  | <b>Appendix</b>   | <b>276</b> |

## List of Tables

|  |    |
|--|----|
| Table 1. Description and Explanation of SPAs, SACs and Ramsar sites                              | 20 |
| Table 2. Stages of the Habitats Regulations Assessment Process                                   | 24 |
| Table 3. Can the Castle Point Plan be exempt, excluded or eliminated from requiring a HRA?       | 27 |
| Table 4. Habitats sites within 20 km of Castle Point Borough Boundary                            | 29 |
| Table 5: Evidenced Zones of Influence for Recreational disturbance                               | 35 |
| Table 6. Main sources and effects of air pollutants on Habitats sites                            | 40 |
| Table 7: Habitats Regulations Assessment Screening Categorisation                                | 43 |
| Table 8. Lists of Habitats sites within 20km and the scope of the screening assessment           | 46 |
| Table 9. Policies that may cause Likely Significant Effects, showing Impact Pathways             | 48 |
| Table 10: Habitats sites and examples of LSE identified for Land Take pathway at Screening Stage | 54 |
| Table 11: Habitats sites and examples of LSE identified for Functionally Linked Land pathway     |    |



|   |     |
|---|-----|
| at Screening stage  | 55  |
| Table 12: Habitats sites and examples of LSE identified for Disturbance at Screening Stage  | 56  |
| Table 13: Habitats Sites and examples of LSE identified for Water Quality pathway at Screening Stage  | 59  |
| Table 14: Habitats sites and examples of LSE identified for Water Quantity pathway at Screening Stage   | 63  |
| Table 15: Habitats sites and examples of LSE identified for Air Quality pathway at Screening Stage  | 64  |
| Table 16: Habitats sites in scope which could be affected by Land Take resulting from the Plan  | 79  |
| Table 17: Policies and Site Allocations which could adversely affect Habitats sites through Land Take   | 86  |
| Table 18: Habitats sites in scope which could be affected by the Local Plan from qualifying species using Functionally Linked Land                          | 89  |
| Table 19: Policies and Site Allocations which could adversely affect the Functionally Linked Land of Habitats sites and proposed additional mitigation      | 99  |
| Table 20: Advice on Seasonality for Benfleet and Southend Marshes SPA (Natural England)   | 112 |
| Table 21: Advice on Seasonality for Thames Estuary and Marshes SPA (Natural England)  | 112 |
| Table 22: Habitats sites in scope which could be affected by impacts from Recreational disturbance resulting from the Local Plan alone                      | 115 |
| Table 23: Policies and Site Allocations which could adversely affect Habitats sites through Recreational Disturbance and proposed additional mitigation     | 121 |
| Table 24: Habitats sites in scope which might be affected by impacts from Non-recreational Disturbance resulting from the Plan                              | 127 |
| Table 25: Policies and Site Allocations which could adversely affect Habitats sites through Non-recreational Disturbance and proposed additional mitigation | 137 |
| Table 26: Habitats Sites in scope which could be affected by impacts by Water Quality resulting from the Castle Point Plan                                  | 152 |
| Table 27: Policies and Site Allocations which might adversely affect Habitats sites through Water Quality and proposed additional mitigation                | 176 |
| Table 28: Habitats Sites which could be affected by impacts by Water Quantity resulting from the Local Plan   | 199 |



|   |     |
|---|-----|
| Table 29: Policies and Site Allocations which might adversely affect Habitats sites through Water Quantity and proposed additional mitigation                                 | 203 |
| Table 30: Habitats Sites which might be affected by impacts by Air Quality resulting from the Local Plan  | 206 |
| Table 31: Policies and Site Allocations which might adversely affect Habitats sites through Air Quality and proposed additional mitigation                                    | 221 |
| Table 32. Other plans or projects considered for in combination effects   | 237 |
| Table 33: Habitats sites in scope which could be affected by impacts from Recreational disturbance resulting from the Local Plan in combination with other plans and projects | 255 |
| Table 34: Summary list of the AA's recommendations and amendments   | 260 |

## List of Figures

|   |     |
|---|-----|
| Figure 1. Outline of the Four Stage Approach to the Assessment of Plans under the Habitats Regulations  | 23  |
| Figure 2: WeBS counts for the Thames Estuary  | 94  |
| Figure 3: Castle Point Plan site allocations and open spaces:   | 120 |
| Figure 4: Natural England's Advice on Operations for Outfalls/ Intake pipes (maintenance, construction and usage) (Coastal Infrastructure) at Benfleet & Southend Marshes SPA | 166 |

## List of Appendices

|  |     |
|--|-----|
| Appendix 1.HRA Screening of Individual Policies & Potential Development Sites outside of and within the Green Belt | 276 |
| Appendix 2. List of Habitats sites, Conservation Objectives and Vulnerabilities                                    | 334 |
| Appendix 3.Habitats sites within 20km of the Borough Boundaries  | 375 |
| Appendix 4. Habitats sites, Main Rivers and Housing Allocations  | 376 |
| Appendix 5. Air Quality Map showing 200 metre buffer from SPA  | 377 |





## Glossary of Acronyms

|       |   |
|-------|---|
| AA    | Appropriate Assessment  |
| AEOI  | Adverse Effect On site Integrity                                  |
| AMR   | Annual Monitoring Report  |
| BC    | Borough Council   |
| CEMP  | Construction Environmental Management Plan                        |
| EA    | Environment Agency  |
| EC    | European Commission   |
| EMS   | European Marine Site  |
| EU    | European Union  |
| FLL   | Functionally Linked Land  |
| Ha    | Hectare   |
| HRA   | Habitats Regulations Assessment                                   |
| IROPI | Imperative Reasons of Overriding Public Interest                  |
| IRZ   | Impact Risk Zone  |
| LP    | Local Plan  |
| Km    | Kilometre   |
| LPA   | Local Planning Authority  |
| LTP   | Local Transport Plan  |
| LSE   | Likely Significant Effect   |
| MAGIC | Multi Agency Geographic Information about the Natural Environment |
| NE    | Natural England   |
| NPPF  | National Planning Policy Framework                                |
| NSIP  | National Strategic Infrastructure Project                         |
| PRoW  | Public Right of Way   |
| RAMS  | Recreational disturbance Avoidance and Mitigation Strategy        |
| RIS   | Ramsar Information Sheet  |
| SAC   | Special Area of Conservation                                      |
| SACO  | Supplementary Advice on Conservation Objectives                   |
| SoS   | Secretary of State  |
| SIP   | Site Improvement Plan   |
| SPA   | Special Protection Area   |
| SSSI  | Site of Special Scientific Interest                               |
| WFD   | Water Framework Directive   |
| WRC   | Water Recycling Centres   |
| ZOI   | Zone of Influence   |



## Summary

This Habitats Regulations Assessment (HRA) has been prepared for the Castle Point Plan (Regulation 19) by Place Services to enable Castle Point Borough Council to comply with Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (as amended).

This has been developed from the earlier Scoping report produced for the Castle Point Issues and Options stage (Emerging Castle Point Plan Regulation 18 – Issues and Options Habitats Regulations Assessment Scoping Report - Place Services, May 2024), and has also built upon knowledge and understanding derived from the previous HRAs undertaken for earlier local plans for Castle Point.

This HRA report includes the first and second stages of the HRA process; i.e. it has considered the elements of the Castle Point Plan which need to be screened in (stage 1) as having the potential for Likely Significant Effect (LSE) and hence requiring further assessment of their potential to result in 'Adverse Effects on the Integrity' of one or more Habitats (European) sites (stage 2).

As Likely Significant Effects by the Local Plan on Habitats (European) sites identified at Stage 1 HRA Screening could not be ruled out, there was a need for further assessment of impacts and Stage 2 Appropriate Assessment was therefore necessary.

The Screening of Likely Significant Effects stage of the Castle Point Plan is set out in Chapter 3 of this report. There are a wide range of potential impacts upon Habitats sites which could arise as a result of components of the Local Plan. Impact pathways provide a connection between Habitats sites and the policies and Allocated Sites. The following eleven Habitats sites identified that may be affected by impacts resulting from the Local Plan and considered at Appropriate Assessment stage were:

- Benfleet and Southend Marshes SPA and Ramsar site
- Blackwater Estuary SPA and Ramsar site
- Foulness SPA and Ramsar site
- Crouch and Roach SPA and Ramsar site
- Essex Estuaries SAC
- Thames Estuary and Marshes SPA and Ramsar site

The following impact pathways were considered most likely to have potential to cause effects were:



- **Land take** - Direct or indirect impacts to a Habitats site causing habitat loss, degradation or fragmentation.
- **Impacts on protected species outside the designated site** - e.g. loss of functionally linked land (outside Habitats sites).
- **Disturbance** - Increase of any type of increased disturbance including increased recreational disturbance.
- **Water quality** - Changes in water quality to water-dependent Habitats sites e.g. nutrient increases
- **Water quantity** - Changes in surface or ground water availability from increased surface runoff or increased groundwater extraction.
- **Air quality** - Changes in localised atmospheric pollution levels from vehicle emissions

The Screening Assessment identified 57 policies and Allocated Sites needing to be taken forward to AA. There are listed in tables 9 to 15. The screening assessment for each policy and Allocated Sites (including the elements screened out) is provided within Appendix 1.

The Appropriate Assessment stage of the Castle Point Plan is set out in Chapter 5 of this report. At this stage, the policies and Site Allocations screened in were considered in more detail and the mitigation measures proposed within the Plan were taken into account. The Key Vulnerabilities / Factors Affecting Site Integrity of the Benfleet and Southend Marshes SPA and Thames Estuary and Marshes SPA were considered for the assessment and are summarised in Appendix 2 of this report.

The Appropriate Assessment is divided by impact pathways. Tables are provided in the AA for each impact pathway as follows, where every policy and Allocated site screened in is considered:

- Table 17- Land Take
- Table 19 - Functionally Linked Land
- Table 23 - Recreational Disturbance
- Table 25 -Non-recreational Disturbance
- Table 27 -Water Quality
- Table 29 -Water Quantity
- Table 31 -Air Quality



The Appropriate Assessment stage also considered impacts in combination with other plans and projects. A complete list of proposed recommendations arising from this assessment is set out in Chapter 6.

Natural England as the Statutory Nature Conservation Body provided a response on 18th September 2024 to the Castle Point Plan Issues and Options consultation, and this has been taken into account. Natural England will also be formally consulted on this HRA and its comments must be taken into account.

Several policies or Reasoned Justifications already advised of the need for a project-level HRA to avoid adverse effects on integrity. There are also several positive policies which provide embedded mitigation. Additional measures have been proposed where considered necessary. On the whole, these were fairly minor adjustments and were mainly to explicitly highlight where project-level HRAs would be necessary. These recommendations have been included in the Regulation 19 version of the Plan.

The coastal habitats, particularly of Holehaven Creek, are considered to be 'Functionally Linked Land' for the Thames Estuary and Marshes Special Protection Area and Ramsar site. Therefore, this land was included as having the potential to be affected as a result of Local Plan policies. This is critical due to the existing and proposed developments in the vicinity and its juxtaposition with Holehaven Creek SSSI and neighbouring locally designated Grazing Marsh which may be utilised by qualifying mobile bird species.

With regards to water quality, the situation is complex as the whole of Canvey Island is at risk from tidal and surface water flooding. There also risk of significant surface water flooding on areas of the mainland too. In times of high rain fall the Water Recycling Centres overflow into the Thames Estuary creating the potential for reduced water quality. There a complex set of factors causing the flooding which are the responsibility of a several bodies and the subject of a number of flood/ water management strategies. The Castle Point Plan contains specific policies aimed at supporting the other responsible agencies in managing non-tidal flooding, providing water attenuation and water efficiency, and ensuring that Water Recycling Centres are not stretched beyond their capacity. Sustainable Drainage Systems (SuDS) have been identified as crucial for new developments to prevent flooding by retaining water in situ, thereby reducing the water going to Water Recycling Centres.

While these measures will help with water quality, it is highlighted that adverse effects on integrity of a Habitats site have been identified with respect to the Plan's tidal flooding policies to strengthen the sea walls on Canvey Island and to allow flooding by not strengthening the sea walls in the vicinity of Benfleet and Southend Marshes SPA, thereby not preventing damage to its terrestrial



habitats. This has already been addressed through the Thames 2100 Plan and accompanying HRA, and is supported by Policy SD1, and it has already been established that compensatory habitats will be required. That strategic project will require joint working by public bodies to ensure the requirements of the Habitats Regulations are met.

The land being considered for improved access to Canvey Island through policies C5 (Improved Access to and around Canvey Island) and T2 (Highway Improvements) could affect Holehaven Creek Site of Special Scientific Interest (SSSI). This would potentially be due to this land being 'functionally linked' to the Thames Estuary and Marshes SPA and it could cause a variety of impacts, such as a reduction in water and air quality and disturbance to coastal birds, including Black-tailed Godwit, which is present in internationally important numbers. There is currently insufficient detail about improved access for this HRA to conclude, beyond scientific doubt, that there will be no adverse effects on site integrity of Thames Estuary & Marshes SPA & Ramsar site and associated Functionally Linked Land. The potential for adverse effects must be addressed once there is further information to do so. Given the limited information available, it was recommended that Policies T5 and T2 are strengthened. T2 now includes a requirement that improvements to accessing Canvey Island avoid any adverse effects on the integrity of Habitats sites and it is clearer in T5 that any proposal coming forward must be able to demonstrate that adverse effects on the integrity of Habitats sites can be avoided.

With regards to air quality, there were no new roads or significant road improvement schemes within 200 metres of a Habitats site. Therefore, AEOL from air quality can be avoided upon the relevant Habitats sites with embedded mitigation. However, the above-mentioned proposed improved access to Canvey Island could reduce air quality if it should cross Holehaven Creek Site of Special Scientific Interest, which is Functionally Linked Land of the Thames Estuary and Marshes SPA and Ramsar site. A project-level HRA will be required at application stage to demonstrate that there will be no adverse effect on the integrity of any Habitats sites.

With regards to recreational disturbance, the implementation of a recreational avoidance and mitigation strategy (RAMS) is now a widely advocated means of mitigating impacts associated with recreational pressure at Habitats sites. Given that the Essex Coast RAMS has been adopted by all the partner authorities, and the advice issued by Natural England to Castle Point BC, there is a high degree of confidence in the appropriateness and likely effectiveness of this strategic solution. The production and implementation of a RAMS, which includes a commitment to regular monitoring, and which has the flexibility to adapt to findings and pre-empt impacts, is considered likely to provide an effective form of mitigation and avoidance for recreational pressures on the Habitats sites. As a result, providing that a RAMS continues to be prepared by the Essex authorities in accordance with the principles outlined in the HRA report, is developed in close consultation with Natural England, and is ready for implementation prior to adoption of the Plan, adverse impacts from recreational impacts on Habitats sites will be avoided. Therefore, the Castle



Point draft Local Plan will not result in adverse effects on the integrity of Habitats sites, either alone or in-combination with other plans and projects as a result of recreational impacts.

Consequently, notwithstanding the need for the compensatory measures relating to tidal flooding -and addressed through the Thames 2100 Plan- this HRA report, including Appropriate Assessment, considers that Castle Point Plan is not predicted to have any Adverse Effect On site Integrity on any Habitats sites, either alone or in combination with other plans and projects.

This decision is reliant on the application of a number of mitigation measures:

- 1) Preparation of HRAs for the future associated strategies, masterplans and project-level HRAs, which should use the best available, most up-to-date evidence.
- 2) Embedded text (mitigation measures) within the Castle Point Plan requiring no adverse effects on Habitats site integrity.
- 3) Use of strict pollution control measures, enforced by measures such as Construction Environment Management Plans.
- 4) Ensuring collaboration with other terrestrial and marine authorities who are also responsible for licensing and permitting in the vicinity to ensure that issues which span the terrestrial and marine/coastal environments are not overlooked because they fall between planning responsibilities.
- 5) Use of the Essex Coast RAMS to address adverse in combination recreational impacts strategically.
- 6) Monitoring of the Castle Point Plan.

The requirement for project level HRAs is explicitly enshrined in the Castle Point Plan. Since it is not possible to rule out adverse effects on the integrity of many Habitats sites due to the high-level nature of the Local Plan policies, 'down-the-line' assessment becomes essential. This is to ensure that developers and decision-makers are aware of the need for project-level HRAs (even if only to confirm no likely significant effect) for the highlighted policies, and that HRAs must consider effects in combination with other plans and projects.

All future related masterplans, strategies and projects must use the best available evidence. They must be completed in the context of the latest scientific knowledge and evidence base that is available at the time of the assessment.



Embedded mitigation measures for schemes will need to be considered in project-level HRA reports and secured by way of any planning consent. Therefore, there will be no need for further assessment for this Castle Point Plan once finalised.

Castle Point Plan monitoring provision will provide a further form of mitigation. Whilst monitoring is not strictly mitigation, it provides details about how the Local Plan has been applied and informs the formal reporting cycle.



# 1. Introduction

## 1.1 The Purpose of This Report

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- 1.1.1 This report is to provide a Habitats Regulations Assessment (HRA) for the Castle Point Plan Regulation 19 in accordance with Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended).
- 1.1.2 The Conservation of Habitats and Species Regulations 2017 (as amended) require the Competent Authority (in this instance Castle Point Borough Council) to undertake a HRA before making a decision about permission for any plan or project that may result in an adverse effect on the integrity of a Habitats site<sup>1</sup> as defined in the National Planning Policy Framework (NPPF, 2024).
- 1.1.3 This report provides a plan-level Stage 1 HRA Screening and Stage 2 Appropriate Assessment as required by Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (as amended).
- 1.1.4 In line with the Court judgement (CJEU People Over Wind v Coillte Teoranta C- 323/17), mitigation measures cannot be taken into account when carrying out a HRA Screening assessment to decide whether a plan or project is likely to result in significant effects on a Habitats (Natura 2000) site. As the policies relate to land within the Zone of Influence (ZOI) for a number of Habitats sites, it is not possible to rule out Likely Significant Effects, without mitigation in place.
- 1.1.5 The Court judgement (CJEU Holohan C- 461/17) imposes more detailed requirements on the competent authority at Appropriate Assessment stage:
  - 2. [...] 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.
  - 3. [...] the competent authority is permitted to grant to a plan or project consent which leaves the developer free to determine subsequently certain parameters relating to the construction phase, such as the location of the construction compound and haul routes,

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<sup>1</sup> Habitats site: Any site which would be included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 (as amended) for the purpose of those regulations and those listed in paragraph 194 of the NPPF (December 2024). This includes potential Special Protection Areas and possible Special Areas of Conservation; listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.





only if that authority is certain that the development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.

4. [...] where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'Appropriate Assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned.

- 1.1.6 The Conservation of Habitats and Species Regulations 2017 (as amended) are commonly known as the 'Habitats Regulations'. Requirements are set out within Regulations 63 and 64 of the Habitats Regulations, where a series of steps and tests are followed for plans or projects that could potentially affect habitats sites. The steps and tests set out within Regulations 63 and 64 are commonly referred to as the 'Habitats Regulations Assessment' process. The Government has produced core guidance for competent authorities and developers to assist with the HRA process. This can be found on the Defra website<sup>2</sup>.
- 1.1.7 It demonstrates how the Plan or Project is compatible with UK obligations, which includes the need to undertake a HRA and forms a plan level HRA as required by Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (as amended).
- 1.1.8 At HRA Stage 2 Appropriate Assessment, plans and projects should only be permitted when it has been proven beyond scientific doubt that there will be no 'adverse effects on the integrity' of Habitats sites.
- 1.1.9 Where this is not possible, the legal process can proceed to later stages, and may allow projects that may result in negative impacts on the integrity of a site if the competent authority is satisfied that there are no alternative solutions, and the plan or project must be carried out for Imperative Reasons of Overriding Public Interest (IROPI) (Regulation 64). However, this will require suitable compensation to ensure that the overall coherence of the series of Habitats sites is retained. This is beyond the scope of this Assessment.
- 1.1.10 The HRA should be undertaken by the 'competent authorities' - in this case Castle Point Borough Council - and Place Services has been commissioned to complete this on behalf of the Council. The HRA also requires close working with Natural England as the statutory nature conservation body.
- 1.1.11 A HRA Scoping Report was produced for the Emerging Castle Point Plan Regulation 18 – Issues and Options stage in May 2024 (Place Services)<sup>3</sup>.

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<sup>2</sup> <http://www.defra.gov.uk/habitats-review/implementation/process-guidance/guidance/sites/>

<sup>3</sup> [habitats-regulations-assessment-scoping-report-2024.pdf](http://www.place-services.co.uk/habitats-regulations-assessment-scoping-report-2024.pdf)



1.1.12 This HRA report aims to:

- Consider the elements of the Plan screened in as having potential for Likely Significant Effect (LSE) for further assessment of their potential to result in adverse effects on the integrity of the habitats sites at stage 2 Appropriate Assessment.
- Assess the potential for effects from the Plan alone.
- Assess the potential for in combination effects from other projects and plans in the area.
- Identify if there are any outstanding issues that need further investigation.

1.1.13 Although not allocated within the Castle Point Plan, potential development sites within the Green Belt have also been considered as part of this assessment.

1.1.14 It is not considered that there are any serious limitations to this HRA.

## 1.2 Overview of the Castle Point Plan

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1.2.1 Castle Point Borough Council has prepared the Castle Point Plan (hereafter referred to as the 'Plan') in order to set out how the development and growth requirements of Castle Point for the period April 2023 and March 2043 will be met. The Castle Point Plan sets out planning allocations and policies for the delivery of development across Castle Point.

1.2.2 It sets out the potential locations and numbers of the various types of homes, provides space for businesses, and provision of infrastructure, such as schools and health facilities. It also contains policies associated with travel and transport, safeguarding and enhancing the environment, enabling climate change mitigation and adaption, and provides design parameters.

1.2.3 Castle Point is situated in south Essex and comprises the main settlements of Canvey Island, and South Benfleet, Hadleigh and Thundersley. A smaller settlement of Daws Heath sits in the north-east of the Borough. Castle Point is a relatively small Borough just 17.4 square miles in size, with a population of 89,591 people, and has the second highest density of people in Essex

1.2.4 The Borough borders the city of Southend-on-Sea to the east, Rochford District to the north, Basildon Borough to the west, and Thurrock unitary authority to the south-west. The Borough sits on the northern bank of the Thames Estuary.

1.2.5 **South Essex Councils** (SEC), work on strategic matters that cross the administrative boundaries in the local area. These matters include economic development, transport, infrastructure, housing, climate change and the environment.

1.2.6 The Thames Estuary is a significant feature in the landscape of Castle Point. The topography of the Borough is contrasting. Canvey Island is low lying, generally at or below



sea level whilst the mainland is typified by an ancient cliff escarpment intersected in places, by deep valleys.

- 1.2.7 The Borough is within London's Metropolitan Green Belt, and 53% of the Borough is designated as Green Belt. Within this area sits the internationally protected Benfleet and Southend Marshes SPA and Ramsar site, six Sites of Special Scientific Interest (SSSIs), numerous ancient woodlands, and 41 Local Wildlife Sites and 7 local geological sites.
- 1.2.8 The Castle Point Plan comprises the vision and a set of environmental, economic and social objectives, accompanied by a suite of policies and Site Allocations. The overriding objective of this Plan is stated as being *"to protect and enhance the open spaces, habitats, historic and natural landscape and character of the Borough for the enjoyment of all its residents, visitors, workers and wildlife..."*
- 1.2.9 Although not allocated within the Castle Point Plan, potential development sites within the Green Belt have also been considered as part of this assessment.

## 1.3 Habitats (European) Sites

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- 1.3.1 Habitats sites is the term used in the NPPF (December 2024) to describe any sites which would be included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 (as amended) for the purpose of those regulations. These now form part of the UK national network of sites for nature protection. The aim of the network is to assure the long-term survival of UK's most valuable and threatened species and habitats.
- 1.3.2 All Special Protection Areas (SPAs) are designated for birds and Special Areas of Conservation (SACs) are designated for other species, and for Habitats. Wetlands of International Importance (Ramsar sites) are also part of the National Network of sites. This is because all SPAs and SACs are comprised of Sites of Special Scientific Interest (SSSIs) and all Ramsar sites in England are SSSIs. Together, SPAs, SACs and Ramsar Sites make up the Habitats sites in England. The following table (Table 1) offers a description and explanation of SPAs, SACs and Ramsar sites.
- 1.3.3 The following table (Table 1) offers a description and explanation of SPAs, SACs and Ramsar sites.



**Table 1. Description and Explanation of SPAs, SACs and Ramsar sites**

### Special Protection Areas (SPAs)

SPAs are areas which have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found within EU countries. Example: Benfleet and Southend Marshes SPA is an estuarine area on the Essex side of the Thames Estuary and supports a diverse flora and fauna, including internationally important numbers of wintering waterfowl. *Legislation: Conservation of Habitats and Species Regulations 2017 (as amended).*

### Special Areas of Conservation (SACs)

SACs are areas designated to protect habitat types that are in danger of disappearance, have a small natural range, or are highly characteristic of the region; and to protect species that are endangered, vulnerable, rare, or endemic. Example: Essex Estuaries SAC has Atlantic salt meadows, mudflats and sandflats *Legislation: Conservation of Habitats and Species Regulations 2017 (as amended).*

### Ramsar sites (Wetlands of International Importance)

Ramsar sites are designated to protect the biological and physical features of wetlands, especially for waterfowl Habitats. Example: Benfleet and Southend Marshes Ramsar site is important due to bird assemblages of international importance in winter and spring. Ramsar sites often overlap with SACs and SPAs and UK planning policy determines that they should be accorded the same importance when developments are proposed. *Legislation: Ramsar Convention (1971) – Wetlands of International Importance.*



## 2. Method and Approach

### 2.1 Four Stage Approach

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- 2.1.1 The legislation does not require a fixed method for preparing a HRA report, but case law has shaped the way it should be undertaken. The HRA is a sequential process and it is generally divided into four stages, which are set out below in Figure 1 taken in the DTA Publications Handbook<sup>4</sup>. Each of the stages contains a number of sequential steps, comprising the tests or procedures required by the Conservation of Habitats and Species Regulations 2017
- 2.1.2 This HRA includes the first sequential stage, i.e., screening. The four stages are outlined here, and Stage 1 is explored in further detail below.

#### Stage 1 - Screening

- 2.1.3 The process identifies whether a Plan, either alone or in combination with other plans or projects, is likely to have a significant effect on a Habitats site. Current guidance on HRA recommends that the screening stage should comprise the following element.
- Determining whether the Plan is directly connected with or necessary to the management of the site – if it is then no further assessment is necessary,
  - Identify Habitats (European) sites in and around the Plan area,
  - Review the policies and proposals in the Plan and consider the potential effects on Habitats (European) sites (magnitude, duration, location, extent),
  - Examine other plans and projects that could, 'in combination', have the potential to have significant effects on a Habitats (European) site,
  - Produce a screening assessment – record of screening analysis.
- 2.1.4 The screening exercise should be approached on a precautionary basis. If the screening stage concludes that there are likely to be no significant effects on Habitats (European) sites, then there will be no need to progress to Stage 2. If effects are judged likely or uncertain, the precautionary principle is applied, and the Plan is then considered further under Stage 2.

#### Stage 2 - Appropriate Assessment (AA)

- 2.1.5 Where a plan may cause Likely Significant Effects, the second stage is to undertake an 'Appropriate Assessment' of the implications of the Plan (either alone or in combination with

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<sup>4</sup> The DTA Publications Handbook can be found at [www.dtapublications.co.uk](http://www.dtapublications.co.uk)



other plans or projects) and establish whether there may be an Adverse Effect on Integrity (AEOI) of any Habitats sites in view of their Conservation Objectives.

- 2.1.6 An AA assesses the impacts of the proposed plan against the conservation objectives of the qualifying features of the relevant Habitats sites. Should the AA identify adverse effects, then alternatives, such as changes to the Plan, should be examined to avoid any potential damaging effects. If no alternative exists, mitigation measures are identified and evaluated.
- 2.1.7 Some policies of a plan can be used to mitigate some of the potential Likely Significant Effects identified. These can be considered at Appropriate Assessment. This stage thus becomes an iterative process as avoidance and reduction measures can be incorporated in order to be able to ascertain that there is no Adverse Effect on Integrity on any Habitats site, before making a final assessment.
- 2.1.8 Appropriate Assessment should be undertaken by the competent authority and should assess every aspect of the Castle Point Plan which can by itself, or in combination with other plans and projects, affect the Habitats sites' Conservation Objectives. The assessment must consider the implications for each qualifying feature of each potentially affected Habitats site.
- 2.1.9 If effects remain after all alternatives and mitigation measures have been considered, the HRA proceeds to Stage 3.

### **Stage 3 - Assessment of Alternative Solutions**

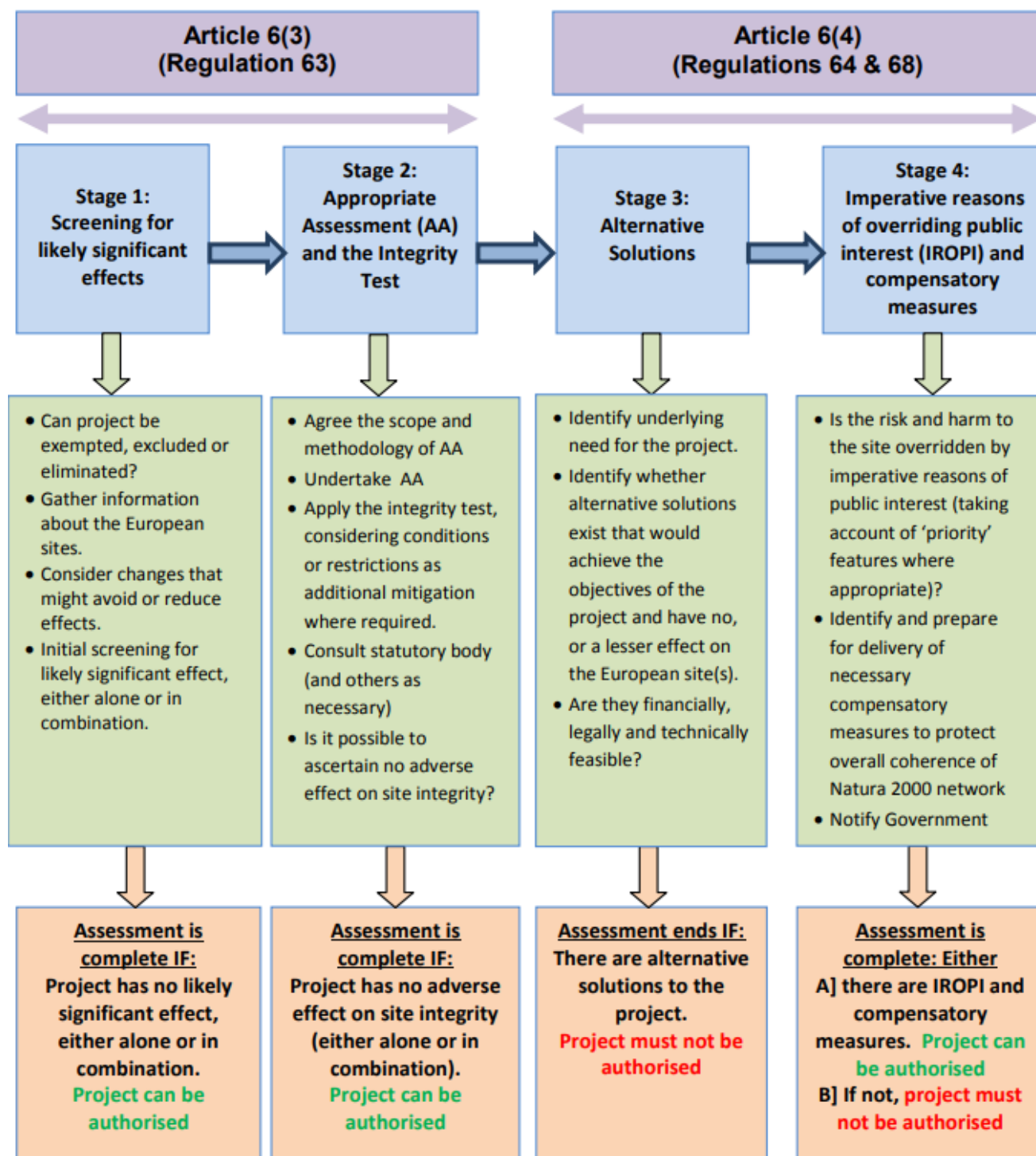
- 2.1.10 A HRA only progresses to Stage 3 when significant effects on the integrity of Habitats sites remain, following the consideration of alternatives and development of mitigation measures in Stage 2.

### **Stage 4 - Imperative Reasons of Overriding Public Interest and Compensatory Measures**

- 2.1.11 Stage 4 involves the process of identifying 'imperative reasons of overriding public interest' ('IROPI'). It must demonstrate that no alternatives exist and identify potential compensatory measures. This stage is a last resort and should be avoided if at all possible. If significant negative effects remain, a Plan may only be adopted under such circumstances if there are imperative reasons of overriding public interest, where it is deemed that the Plan should proceed.



**Figure 1. Outline of the Four Stage Approach to the Assessment of Plans under the Habitats Regulations**



**Table 2. Stages of the Habitats Regulations Assessment Process**

| Stage   | Tasks  | Outcome   |
|---|--|---|
| Stage 1 HRA Screening<br>(Regulation 63)          | <ul style="list-style-type: none"> <li>- List the policies and allocated sites.</li> <li>- Identify potential effects to a Habitats site from the Plan.</li> <li>- Assess if any significant effects on a Habitats site from the Plan, either alone or in combination, with other plans or projects.</li> </ul>  | <p>Where significant effects are unlikely, prepare a 'finding of no significant effect' report and Plan can be adopted.</p> <p>Where significant effects are judged likely, either alone or in combination, or there is a lack of information to prove otherwise, go to Stage 2.</p> <p>People over Wind CJEU ruling (April 2018) means that it is not possible to consider mitigation measures when screening for impacts.</p> |
| Stage 2 Appropriate Assessment<br>(Regulation 63) | <ul style="list-style-type: none"> <li>- List policies and allocations within scope.</li> <li>- List Habitats sites within scope.</li> <li>- Set out methodology of the AA and agree with Natural England.</li> <li>- Assess the implication of the policies and allocations against the designated features and species not listed but which could be using the habitat features.</li> <li>- Apply the integrity test.</li> <li>- Where there may be adverse effects on the ecological integrity of Habitats sites, in view of the Site's conservation</li> </ul> | <p>If no adverse effect on site integrity either alone or in combination, the Plan can be adopted.</p> <p>If it is not possible to ascertain no adverse effect on site integrity, go to Stage 3.</p> <p>Holohan CJEU ruling (November 2018) now imposes more detailed requirements on the competent authority at Appropriate Assessment stage.</p>  |





| Stage  | Tasks  | Outcome  |
|--|--|--|
|  | <p>objectives, consider mitigation measures.</p> <ul style="list-style-type: none"> <li>- Ensure mitigation is embedded into the Local Plan.</li> <li>- Assess in combination effects with other plans and projects.</li> <li>- Reapply the integrity test. Where there may be adverse effects on the ecological integrity of Habitats sites, in view of the Site's conservation objectives, consider mitigation measures.</li> <li>- Formally Consult Natural England.</li> </ul> |  |
| <p>Stage 3<br/>Assessment of alternative solutions<br/>(Regulation 64)</p> | <ul style="list-style-type: none"> <li>- Identify whether alternative solutions exist that would achieve the objectives of the Plan and have no or a lesser effect on the integrity of a Habitats site(s).</li> <li>- If effects remain after alternative solutions have been considered, consider whether the policies and/or projects should proceed with modification or the policies (and projects) be removed from the Plan.</li> </ul>                                       | <p>If there are alternative solutions to the Plan, it cannot be adopted without modification.</p> <p>If not financially, legally, or technically viable alternatives exist, go to Stage 4.</p> |



| Stage                            | Tasks  | Outcome   |
|----------------------------------|--|---|
| Stage 4 IROPI<br>(Regulation 64) | <ul style="list-style-type: none"> <li>- Consider if the risk and harm to the Habitats site is over-ridden by Imperative Reasons of Over-riding Public Interest.</li> <li>- Identify and prepare delivery of compensatory measures to protect the overall coherence of the UK national network and notify Government.</li> </ul> | <p>If there are IROPI and compensatory measures, the Plan can be adopted</p> <p>If there are no IROPI the Plan cannot be adopted.</p> |

## 2.2 Screening Methodology - Assessment of Likely Significant Effects

### 2.2.1 - Assessment of Likely Significant Effects

2.2.2 The screening stage identifies whether the Castle Point Plan may result in a Likely Significant Effect to any Habitats site, either alone or in combination with other plans or projects.

2.2.3 The screening process should identify all aspects of the Castle Point Plan that are:

- Exempt from assessment
- Excluded from assessment
- Eliminated from further assessment
- Judged to have no Likely Significant Effects, alone or in combination with other plans or projects and can therefore be screened out
- Screened in as it is not possible to rule out Likely Significant Effects.

2.2.4 In line with the 2018 Court judgment (CJEU People Over Wind v Coillte Teoranta C-323/17), mitigation measures designed by the Plan to avoid or reduce harmful effects upon a Habitats site cannot be taken into account when carrying out a screening assessment.

2.2.5 Mitigation measures may be those which avoid, cancel or reduce effects. They may be embedded into the Plan, and can also called embedded measures.

2.2.6 Consequently, any aspect of the Castle Point Plan which cannot be ruled out as having Likely Significant Effects should continue to Stage 2 Appropriate Assessment.



2.2.7 It has been established that this Plan requires an HRA for the following reasons, outlined in Table 3 below:

**Table 3. Can the Castle Point Plan be exempt, excluded or eliminated from requiring a HRA?**

| Stage                       | Outcome   |
|-----------------------------|---|
| Can the plan be exempt?     | No, the Castle Point Plan is not directly connected with or necessary to management of any Habitats sites.  |
| Can the plan be excluded?   | No, the Castle Point Plan cannot be excluded as it falls within the definition of being a plan within the Habitats Regulations.   |
| Can the plan be eliminated? | No, the Castle Point Plan as a whole cannot be eliminated as it proposes a number of policies and site allocations which may have a Likely Significant Effect on one or more Habitats site. However, individual policies and sites can be eliminated. |

2.2.8 Plans should not contain proposals that would be vulnerable to failure under the Habitats Regulations at project assessment stage, as this would be regarded as 'faulty planning'.

2.2.9 'Likely' and 'Significant effects' have been defined through case law. 'Likely' means the risk or possibility of significant effects occurring. An effect is 'likely' if it cannot be excluded on the basis of objective information.

2.2.10 A 'significant effect' is any effect that would undermine the conservation objectives for the qualifying features of Habitats sites potentially affected, alone or in combination with other plans or projects. There must be a causal connection or link between the Castle Point Plan and the qualifying features of the site (s) which could result in possible significant effects on the site (s). Effects may be direct or indirect and a judgement must be taken on a case-by-case basis. The decision as to whether or not a potential impact is significant depends on factors such as: magnitude of impact, type, extent, duration, intensity, timing, probability, cumulative effects and the vulnerability of the habitats and species concerned. So, what may be significant in relation to one site may not be in relation to another.

2.2.11 An effect which is not significant can be described as 'insignificant', 'de minimis' or 'trivial' - i.e. it would not undermine the conservation objectives.

2.2.12 A risk-based approach involving the application of the precautionary principle has been used in the assessment. A conclusion of 'no significant effect' is only reached where it is



considered very unlikely, based on current knowledge and the information available, that a proposal in the Castle Point Plan would have a significant effect on the integrity of a Habitats site.

2.2.13 Policies and Allocated Sites are screened out where they would not result in development because they either set out criteria relating to development proposed under other policies, or are very general in nature, or they seek to protect the natural environment.

2.2.14 However, some policies may have a significant positive effect by requiring mitigation measures which are designed to avoid, eliminate, cancel or reduce the effects upon Habitats sites. As these policies will not undermine the conservation objectives of the Habitats sites, they therefore do not need to be taken forward for further consideration in the Appropriate Assessment.

2.2.15 Key advice, guidance and information has also come from the following sources:

- DTA Publications Handbook: <https://www.dtapublications.co.uk/>
- HRAs of neighbouring authorities Local Plans
- Extensive experience of producing other HRAs
- Government information regarding Habitats sites and their 'zones of influence' or 'Impact Risk Zone', e.g. [www.magic.gov.uk](http://www.magic.gov.uk)

2.2.16 Identifying Habitats sites, their Conservation Objectives and Qualifying Features

2.2.17 The qualifying features and conservation objectives of the Habitats sites, together with Identifying Habitats sites, their Conservation Objectives and Qualifying Features

2.2.18 The qualifying features and conservation objectives of the Habitats 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 as well as Natural England's Site Improvement Plans (SIP) and the most recent conservation objectives. An understanding of the designated features of each Habitats site and the factors contributing to its integrity has informed the assessment of the potential Likely Significant Effects of the Castle Point Plan.

2.2.19 Key sources of the Habitats sites information were found at:

- JNCC: <https://jncc.gov.uk/our-work/uk-protected-areas/>
- Site Designation features and Conservation Objectives- Designated Sites View: <https://designatedsites.naturalengland.org.uk/>
- Site Improvement Plans, e.g.: <http://publications.naturalengland.org.uk/publication/6270737467834368>
- MAGIC (the Multi Agency Geographic Information website): [www.magic.gov.uk](http://www.magic.gov.uk)



- "Managing Natura 2000 sites- The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC"[http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/Provisions\\_Art\\_6\\_nov\\_2018\\_endocx.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/Provisions_Art_6_nov_2018_endocx.pdf)

2.2.20 The Castle Point Plan has the potential to impact designated areas that are beyond the Plan's area boundary. As a starting point, a distance of 20km from the Borough boundary was used to identify Habitats sites which could be affected by impacts relating to the Local Plan; these are listed below. They include all Habitats sites within Castle Point Borough and those within 20km of the Borough's boundary, to take into account any windfall sites that may arise. These are listed in Table 4 below.

**Table 4. Habitats sites within 20 km of Castle Point Borough Boundary**

| Site   | Location  |
|--|---|
| Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site         | Estuary from Maldon to Mersea Island  |
| Benfleet and Southend Marshes SPA and Ramsar site                        | South Essex on the Thames coastline coast, including Hadleigh Ray between the north east coastline of Canvey Island and southern edge of Hadleigh Castle County Park. |
| Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site | Estuaries from South Woodham Ferrers, between Dengie Peninsula and Foulness   |
| Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar site                     | Dengie Peninsula, east of Maldon and Burnham-on-Crouch  |
| Essex Estuaries SAC  | Estuaries from Clacton on Sea to Southend   |
| Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar site                   | Covers southeast corner of Essex, near Southend   |
| Medway Estuary and Marshes SPA and Ramsar site                           | Estuary near Sheerness (Kent)   |

2.2.21 A map of all the above Habitats sites with the 20 km radius of the Borough boundary can be found in Appendix 3.



## 2.3 Castle Point Draft Local Plan Regulation 18 Consultation

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- 2.3.1 Natural England provided a comprehensive response to the Castle Point draft Local Plan Regulation 18 consultation (Issues and Options stage), on 18th September 2024.
- 2.3.2 Natural England advised that it was satisfied with the conclusions of the accompanying Screening Report (i.e. the HRA Scoping Report by Place Services, May 2024) with regards to the relevant Marine Protected Areas (MPAs). It considered that *“a Marine Conservation Zone Assessment for the Blackwater, Crouch, Roach and Colne Estuaries Marine Conservation Zone (MCZ) is not currently required due to the distance between the Castle Point LP Area and the MCZ (Over 4km) and development within the Local Plan boundary is unlikely to impact the MCZ features”*. It also advised that *“prior to the next iteration of the Local Plan HRA (at Regulation 19, further checks will be necessary with Anglian Water and further evidence gathering will be required in order to clarify the relevant water treatment works for the growth proposed, the available headroom / capacity at those works and any water quality risks to the Essex Coast sites”*.
- 2.3.4 With respect to recreational disturbance and the Essex Coast RAMS (Recreational disturbance Avoidance and Mitigation Strategy), it stated: *“By definition, any residential development which results in a net increase of one or more dwellings (or equivalent) has ‘Likely Significant Effects’ and must progress to Stage 2 of the HRA process.”* It suggested inclusion of some provided text in this regard.
- 2.3.5 With respect to Impacts on protected species outside the designated site (loss of Functionally Linked Land), it stated that: *“Impacts on protected species outside the designated site (loss of Functionally Linked Land) we note that Holehaven Creek SSSI, which is located partially within Castle Point Borough, is linked geographically and functionally with the wider Thames Estuary. The intertidal mudflats and saltmarsh habitats of Holehaven Creek support a nationally important number of Black-tailed godwit (*Limosa limosa islandica*). This species also regularly occurs in numbers of international importance. This may require consideration of the potential of FLL at distances greater than 2km from formally designated SPAs.”*
- 2.3.6 Natural England also advised that *“the location of development should be carefully considered so that it avoids adverse effects on key biodiversity priorities, including internationally and nationally designated sites, i.e. Special Protection Areas (SPAs) / Special Areas of Conservation (SACs) / Ramsar sites...”*
- 2.3.7 The advice in Natural England’s letter of 18th September 2024 has been taken into account in developing the Screening for this HRA.



## 2.4 Identifying potential effects to a Habitats site from Castle Point Plan and use of Impact Pathways.

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- 2.4.1 There are a wide range of potential impacts upon Habitats sites. These may create direct or indirect effects, be short, medium or long term, temporary or permanent, continuous or intermittent, reversible or irreversible, and they could be positive, negative or neutral.
- 2.4.2 The following potential pathways for unmitigated effects arising from the Local Plan are grouped into categories, and these are summarised below:
- **Land take** - Direct or indirect impacts to a Habitats site causing habitat loss, degradation or fragmentation.
  - **Impacts on protected species outside the designated site** - e.g. loss of functionally linked land (outside Habitats sites). The impact on site features (species) which travel outside the protected sites may be relevant where a development could result in effects on qualifying interest species within the Habitats sites, for example through the loss of feeding grounds for an identified species.
  - **Disturbance** - Increase of any type of disturbance from construction and operation phases, such as those arising from dust, noise and lights, as well as from increased recreational disturbance during operation phases.
  - **Water quality** - Changes in water quality to water-dependent Habitats sites e.g. nutrient increases
  - **Water quantity** - Changes in surface or ground water availability from increased surface runoff or increased groundwater extraction.
  - **Air quality** - Changes in localised atmospheric pollution levels from vehicle emissions.
- 2.4.3 Where a potential impact pathway on a Habitats site is identified, through which the Local Plan could create a Likely Significant Effect, this is considered at screening stage. Potential impact pathways between the Plan and Habitats sites are ruled out due to distance (>20km), lack of hydrological connectivity or where the issues and key vulnerabilities are unrelated to potential impacts from the Castle Point Plan.
- 2.4.4 During the Screening stage each policy is screened for Likely Significant Effects, based upon the above categories. Where it is not possible to rule out Likely Significant Effects without mitigation, it is necessary to progress to Appropriate Assessment stage.
- 2.4.5 There are many uncertainties associated with using trigger distances as there are very few standards available as a guide to how far impacts will travel. When considering the potential for effects on Habitats sites, distance itself is not a definitive guide to the likelihood or severity of an impact. There are other factors that will influence the relative distance at which an impact can occur, such as the prevailing wind or river flow direction. This means that development proposed in a plan that is some distance away from a Habitats site could potentially affect the site, and therefore should be considered as part of HRA screening.





- 2.4.6 Rather than rely on distance alone, best practice is to use a 'source-pathway-receptor' model which focuses on whether there is a potential link or causal connection (pathway) from the source (the direct or indirect change occurring as a result of development) by which impacts from a plan can affect the vulnerabilities/sensitivities of a Habitats site's features to the predicted changes. The pathway is the route or mechanism by which any Likely Significant Effect would be manifest in the environment and would reach the receptor (i.e. the Habitats site). Therefore, during the screening stage a number of assumptions based on professional judgement have been applied in relation to assessing the Likely Significant Effects on Habitats sites that may result from the Local Plan, as described below.
- 2.4.7 The risks of effects to occur are predicted in light of assumptions, limitations and confidence in predictions. Then, taking no account of the mitigation measures incorporated into the Castle Point Plan, the potential effects on qualifying features are determined and assessed on whether they are likely to be 'significant'.
- 2.4.8 The Impact Risk Zones (IRZ) which are provided on the MAGIC website ([www.magic.gov.uk](http://www.magic.gov.uk)) have been used as a starting point in determining Likely Significant Effect on Habitats sites and spatial data has been used to determine the proximity of potential development locations to the Habitats sites.
- 2.4.9 Each potential impact pathway was assessed for the Castle Point Plan Regulation 18-Issues and Options HRA Scoping Report and is reiterated below.

### **Habitat Loss and Fragmentation / Land Take by Development**

- 2.4.10 Direct or indirect impacts to a Habitats site could cause habitat loss, degradation or fragmentation.
- 2.4.11 Loss of land may have the potential to result in Likely Significant Effects to Habitats sites where the habitat affected contributes towards maintaining the interest feature for which the Habitats sites are designated.
- 2.4.12 Benfleet and Southend Marshes SPA and Ramsar site are situated within Castle Point Borough. The majority sits within Hadleigh Castle Country Park and the creek adjacent to it. However, these sites also abut the northeastern corner of Canvey Island.
- 2.4.13 Any policy which may directly affect Benfleet and Southend Marshes SPA and Ramsar site would automatically be screened in for further assessment.
- 2.4.14 Any direct land take, habitat loss and fragmentation are therefore within scope of this HRA screening report. Any policy which may directly affect Benfleet and Southend Marshes SPA and Ramsar site has automatically been screened in for further assessment as well as the policies relating to retaining and improving the sea walls.





## Impacts on protected species outside the designated site

- 2.4.15 Functionally linked land (FLL) is land situated outside a Habitats site, but which supports designated features of Habitats sites. Loss of this land may have the potential to result in Likely Significant Effects to Habitats sites where the habitat affected contributes towards maintaining the interest feature for which the Habitats site is designated, for example through the loss of feeding grounds for an identified species.
- 2.4.16 Mobile interest features listed in the relevant Habitats sites i.e. the birds, may use off-site habitat (land outside of the SPA and Ramsar site boundary) for feeding, roosting, foraging and loafing, especially large fields comprising arable and pastoral land uses and coastal habitats, for example, Hen Harrier, Brent Geese, Lapwing and Golden Plover. Natural England has previously advised that the recognised foraging distance threshold for the majority of wetland bird (excluding Lapwing and Golden Plover) species is 2km from a designated site. Lapwing and Golden Plover can be found considerably further inland from the coastal sites.
- 2.4.17 As set out in above, Natural England has advised (in relation to the Local Plan's Issues and Options consultation) that "Holehaven Creek SSSI, ...is linked geographically and functionally with the wider Thames Estuary. The intertidal mudflats and saltmarsh habitats of Holehaven Creek support a nationally important number of Black-tailed godwit (*Limosa limosa islandica*). This species also regularly occurs in numbers of international importance. This may require consideration of the potential for FLL at distances greater than 2km from formally designated SPAs".
- 2.4.18 Impacts upon protected species outside the designated site / potential loss of functionally linked are therefore within scope for the HRA screening stage.

## Disturbance

- 2.4.19 Disturbance concerns species, rather than habitats -e.g. wetland birds- and it may be limited in time (noise, source of light etc.). The intensity, duration and frequency of repetition of disturbance are therefore important parameters. The following factors can be regarded as significant disturbance. Any event, activity or process contributing to the:
- The long-term decline of the population of the species on the site.
  - The reduction, or to the risk of reduction, of the range of the species within the site.
  - The reduction of the size of the available habitat of the species.
- 2.4.20 Managing Natura 2000 Sites states that: "Disturbance of a species occurs on a site from events, activities or processes contributing, within the site, to a long-term decline in the population of the species, to a reduction or risk of reduction in its range, and to a reduction in its available habitat. This assessment is done according to the site's conservation objectives and its contribution to the coherence of the network."



- 2.4.21 Increase of any type of disturbance from construction, such as those arising from noise, light and vibration and visual disturbance are capable of causing significant disturbances for species, e.g. wintering waterfowl populations.
- 2.4.22 Existing ports have the potential to cause adverse effects through various means including disturbance, various forms of pollution (affecting water quality) and by the introduction of non-native invasive species. Ships involved in the movement of oil and gas typically operate across the globe, and as a consequence there is a risk that increased shipping activity will increase the risk of invasive species being transported to the River Thames, via the hull fouling or within ballast water.
- 2.4.23 There are currently two port facilities located on south Canvey and both of these store and receive hazardous goods. They use the River Thames as a transport route. The ports are supported by the Local Plan through Policy C3 (Canvey Port Facilities) and Policy CP5 (Improved Access to and around Canvey Island). Consequently, it is considered appropriate that invasive species should be considered within the scope of this HRA.
- 2.4.24 A precautionary distance of 2km from a Habitats site has been used for the purpose of this screening assessment for non-recreational related disturbance.
- 2.4.25 In addition, recreation can create increased pressure on the qualifying features. Potentially disturbing activities could include visual and noise disturbance of bird populations by walkers, especially those with dogs. Localised damage to vegetation and soils by frequent pedestrian traffic, mountain bikes and trail bikes could also result in adverse effects, particularly if there are qualifying habitats which are sensitive to erosion. The Habitats sites on the Essex coast all list bird as qualifying species or supporting habitats which have the potential to be adversely affected by increased recreational pressure.
- 2.4.26 The Thames Estuary and Marshes Ramsar site Information Sheet (UK Thames Estuary and Marshes Final (2005)) includes at 'Section 24, factors adversely affecting the site's ecological character, including changes in land (including water) use and development projects', "General Disturbance from human activities", noted as a major on-site issue.
- 2.4.27 The Site Improvement Plan for the Greater Thames complex (the Thames Estuary and Marshes SPA, the Medway Estuary SPA, the Swale SPA and Benfleet & Southend Marshes SPA) (2104), identifies the following as potentially disturbing activities: visual and noise disturbance of bird populations by walkers, especially those with dogs; marine activities such as angling, jet skiing and kite surfing, bait digging, powerboating and recreational boating. Localised damage to vegetation and soils by frequent pedestrian traffic, mountain bikes and trail bikes could also result in adverse effects, particularly if there are qualifying habitats, and have been included as part of the consideration of recreational pressures.
- 2.4.28 The Standard Data Form for the Thames Estuary and Marshes (UK9012021.pdf (2015)) includes in Section 4.3 'Threats, pressures and activities with impacts on the site' with



reference to threat/pressure “G01”, which is “Outdoor sports and leisure activities, recreational activities”, and gives it the rank of ‘High’.

- 2.4.29 Natural England has identified Impact Risk Zones<sup>5</sup> for all SSSIs which are described as follows: “The Impact Risk Zones (IRZs) are a GIS tool developed by Natural England to make an initial assessment of the likely risk of impacts on SSSIs posed by developments. The IRZs tool comprises a series of zones around each SSSI and within each zone, the tool specifies the types of development which, at that distance, have the potential to have adverse impacts.” Recreational disturbance associated with new residential development is one of the risks identified in the tool.
- 2.4.30 In 2017, Natural England identified the Essex coast as a priority for strategic mitigation in relation to the high number of new dwellings anticipated in the individual Local Plans and in all the plans of 11 LPAs in combination and provided written advice to all of the affected LPAs, with a further letter sent in 2018. The reason for the strategic approach was based upon anticipated increases in recreational disturbance as much as on issues of disturbance that had already been identified. This means that results of Common Standards monitoring by Natural England in 2006 would be only one dataset for recreational disturbance to be considered by any plan or project level HRA.
- 2.4.31 The adopted Essex Coast Recreational disturbance Avoidance and Mitigation Strategy (RAMS) has evidenced Zones of Influence (ZOI) for recreational disturbance, and those relevant to the Local Plan are set out in Table 5 below. The Essex Estuaries SAC overlaps with the Blackwater Estuary, Benfleet and Southend Marshes, Colne Estuary, Crouch and Roach Estuaries, Dengie, Foulness and Thames Estuary SPA and Ramsar sites and so follows the respective ZOIs throughout.
- 2.4.32 As set out in para 2.3.4 above, Natural England has advised that “residential development which results in a net increase of one or more dwellings (or equivalent) has ‘Likely Significant Effects’ and must progress to Stage 2 of the HRA process.”
- 2.4.33 It also highlights that “the RAMS covers in-combination effects only, and that Natural England may require extra greenspace provision in order to mitigate the ‘alone’ impacts of development, particularly where it is of a large scale and/or is in very close proximity (<1km) to coastal Sites.”

**Table 5: Evidenced Zones of Influence for Recreational disturbance**

| Designated Site              | Underpinning SSSIs      | Zones of Influence (km) |
|------------------------------|-------------------------|-------------------------|
| Blackwater SPA & Ramsar Site | Blackwater Estuary SSSI | 22                      |

<sup>5</sup> Impact Risk Zones: <https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::sssi-impact-risk-zones-england/about>



| Designated Site                                   | Underpinning SSSIs                 | Zones of Influence (km) |
|---|------------------------------------|-------------------------|
| Benfleet and Southend Marshes SPA and Ramsar site | Benfleet and Southend Marshes SSSI | 4.3                     |
| Crouch and Roach Estuaries SPA and Ramsar site    | Crouch and Roach Estuaries SSSI    | 4.5                     |
| Dengie SPA and Ramsar site                        | Dengie SSSI                        | 20.8                    |
| Foulness SPA and Ramsar site                      | Foulness SSSI                      | 13                      |
| Thames Estuary and Marshes SPA and Ramsar site    | Mucking Flats and Marshes SSSI     | 8.1                     |

2.4.34 Disturbance, including from recreational impacts, is therefore within scope of the HRA screening.

## Water Quality

2.4.35 An important determinant of the nature of wetland Habitats sites and the species that they support is the quality of the water that feeds them. Poor water quality can have a range of environmental impacts. Hydrological connectivity can continue for considerable distances, creating lengthy potential impact pathways.

2.4.36 High levels of toxic chemicals and metals can result in immediate death of aquatic life and have detrimental effects even at lower levels, including changes in wildlife behaviour and increased vulnerability to disease. Therefore, any discharge from construction sites into water sources which are functionally linked to designated sites could therefore result in a Likely Significant Effect if management plans or discharge consents from Environment Agency are not provided and complied with to support schemes.

2.4.37 The enrichment of plant nutrients in water by any high nutrient discharges can also cause eutrophication, which increases plant growth and consequently results in oxygen depletion. In the marine environment, nitrogen is the limiting plant nutrient, so eutrophication is often associated with discharges containing available nitrogen. Algal blooms, which commonly occur due to eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, increasing the oxygen-depleting effects of eutrophication.

2.4.38 Sewage or industrial waste discharges can also contribute to increased nutrients levels in Habitats sites, particularly to phosphate levels in watercourses leading into them. Some components of sewage effluent, pesticides, and industrial chemicals, are suspected to interfere with hormones, possibly having negative effects on the reproduction and development of aquatic life. Diffuse pollution, including that from urban run-off, is considered to be a major factor in the unfavourable condition of some Habitats sites. Tidal mudflats, on which many SPA bird species depend, are vulnerable to smothering by



increased macroalgal growth due to treated effluent discharge and scouring by increased flow volumes.

- 2.4.39 Furthermore, greater pressure on water treatment services due to new development, especially housing, may increase the risk of effluent entering aquatic environments. This is because the allocation of large numbers of new homes in certain locations may result in the capacity of existing available infrastructure being exceeded, a situation that could potentially cause service failures relating to wastewater including increased volumes of wastewater being discharged from the Water Recycling Centres or combined sewer overflows, particularly during high rainfall events.
- 2.4.40 The court judgement (R (on the Application of Preston) v Cumbria County Council [2019] EWCA 1362) indicates that local authorities have to consider impacts from the construction of sewage outfalls for applications that will have a direct impact pathway to designated sites. Therefore, local authorities will need to exercise their own judgment on applications involving the operational impacts of sewage water drainage, albeit giving due weight to the views of a body such as the Environment Agency. Consequently, project level Habitats Regulations Assessment should be undertaken by the local authority to support such schemes prior to the permission of development. As a result, any policies which involve the provision of new sewage outfalls should be identified and screened in within Habitats Regulations Assessments.
- 2.4.41 Due to the very nature of watercourses, hydrological connectivity can continue for considerable distances. Sites are screened in where there is a potential impact pathway connecting a Habitats site with water quality 'sensitivities' and an Allocated Site. For project level HRAs, Natural England has advised that it requires professional judgement when looking at hydrological impacts and greater than 20km is considered over precautionary.
- 2.4.42 Canvey Island is flat and largely below sea level. As a result of severe flooding of the Island in 1953, the Island now benefits from a very high standard of tidal flood risk management infrastructure. It is the intention of the agencies involved to maintain and improve the sea defences on Canvey Island. The flat, low lying topography of Canvey Island creates particular issues associated with surface water management and the ability to drain water away during heavy rainfall events. As a result, Canvey Island is identified as a Critical Drainage Area which experiences localised issues of surface water flooding during heavy rainfall events.
- 2.4.43 Due to its elevated topography, tidal flood risk is less of an issue in Hadleigh and Thundersley compared to Canvey, although there are some low-lying areas still at risk in South Benfleet. Surface water flood risk however presents a more significant issue, particularly in parts of South Benfleet and Thundersley. The predominant solid geology underlying the Castle Point Borough is London Clay, which is impermeable and therefore causes rapid runoff.



- 2.4.44 The Habitats sites scoped in support features which are dependent on water quantity and quality. Any changes in water quantity and quality therefore have the potential to significantly impact them. Consequently, impacts could be caused if developments create increased demands for water treatment or changes to groundwater regimes because of increased impermeable areas.
- 2.4.45 An assessment of the key vulnerabilities contained within the Site Improvement Plans for the Habitats sites within the scope of the HRA (Appendix 2) identified that water quality and quantity was not a factor affecting site integrity. However, any policies which have been highlighted as having a Likely Significant Effect to water quality and quantity must still be considered within the Appropriate Assessment. This is because any significant changes to the hydrological regime may result in adverse effects to the highlighted Habitats sites due to potential impacts from the development alone or in-combination.
- 2.4.46 This HRA has assumed that the potential for Likely Significant Effects due to reduced water quality, either alone or in-combination, only exists for Habitats sites which are within 20 km of the Borough boundary (as identified earlier in this chapter) or are hydrologically connected to it and have been scoped in, as shown in **Table 4**. Any water pollution from more distant development was assumed to be sufficiently diluted and dispersed as to cause a negligible impact. Water quality potential impacts have been scoped in for the HRA screening.
- 2.4.47 Water pollution, such as contaminated surface run-off, is assumed incapable of significant effects on Habitats sites beyond the Borough boundary, and therefore could only affect Benfleet and Southend Marshes SPA and Ramsar site.
- 2.4.48 Development on green field locations can create impermeable surfaces which can increase surface drainage rates. This can cause changes in depth, duration, frequency, magnitude and timing of water supply or flow, which can have significant implications for some waterbirds in sensitive habitats. Such changes may affect the quality and suitability of habitats used by birds for drinking, preening, feeding or roosting. Increased flood risk has been scoped in for the HRA screening.
- 2.4.49 Any potential impact to water quality is therefore within scope for the HRA screening.
- 2.4.50 A map showing the proximity of main rivers to Habitats sites and the Local Plan's housing allocations can be found in Appendix 4.

## Water Quantity

- 2.4.51 Water Quantity can be affected by some of the same issues highlighted above in the Water Quality section.
- 2.4.52 Changes in the depth, duration, frequency, magnitude and timing of water supply or flow, can have significant implications for some waterbirds in sensitive habitats.





- 2.4.53 Increased water usage can have wide ranging effects on river and wetland habitat parameters, including increased temperatures and nutrient concentrations and reduced oxygen concentrations. Such impacts can be significantly detrimental to rivers' floristic characteristics and to notable species.
- 2.4.54 Increased use of water sources by a proposal also has the potential to affect terrestrial habitats. Excessive abstraction from underlying aquifers could cause a lowering of the water table and affect the water levels of sensitive wetland habitats.
- 2.4.55 Due to the very nature of watercourses, hydrological connectivity can continue for considerable distances. Natural England have advised on project level HRAs that it requires professional judgement when looking at hydrological impacts. Sites are screened in where there is a potential risk of significant increase or reduction of water resources affecting a Habitats site from the Local Plan.
- 2.4.56 The Habitats sites scoped in support features which are dependent on water quantity. Any changes in water quantity therefore have the potential to significantly impact them. Consequently, impacts could be caused if developments create increased demands for water treatment or changes to groundwater regimes because of increased impermeable areas.
- 2.4.57 Any policies which have been highlighted as having a Likely Significant Effect to water quantity should be considered within the Appropriate Assessment e.g. SP9. This is because any significant changes to the hydrological regime may result in adverse effects to the Habitats sites scoped in due to potential impacts from the development alone or in combination.
- 2.4.58 Housing growth may increase regional water abstraction rates, which can have serious negative impacts on Habitats sites. This is because over-abstraction can reduce water levels in rivers, causing reduced flow velocity. This can have wide ranging effects on river and wetland habitat parameters, including increased temperatures and nutrient concentrations and reduced oxygen concentrations. Such impacts can be significantly detrimental to rivers' floristic characteristics and to notable species.
- 2.4.59 Any potential impacts to water quantity are therefore within scope for the HRA screening.

## **Air Quality**

- 2.4.60 There are a number of atmospheric pollutants which can result in direct or indirect impacts to Habitats sites. These impacts are usually caused when the qualifying features are plants, soils and wetland habitats. However, some species may also be indirectly impacted from air pollution causing changes in habitat composition. The primary contributor to atmospheric pollution is transport related activities. Therefore, the main pollutants to atmospheric pollution are considered to be oxides of nitrogen (NOx) or sulphur dioxide (SO<sub>2</sub>) from traffic emissions. However, high intensities of agricultural practices are also



considered to have a significant impact to air pollution. Potential impacts from pollutants and their sources are outlined within Table 6 below.

**Table 6. Main sources and effects of air pollutants on Habitats sites**

| Pollutants                         | Source  | Effects on habitats and species   |
|------------------------------------|---|---|
| Acid Deposition                    | SO <sub>2</sub> , NO <sub>x</sub> and ammonia all contribute to acid deposition. Although future trends in sulphur emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased nitrogen emissions may cancel out any gains produced by reduced sulphur levels   | Can affect habitats and species from acid rain, as well as dry deposition. Some habitats will be more susceptible depending on soil type, geology, weathering rate and buffering capacity.  |
| Ammonia (NH <sub>3</sub> )         | Ammonia is released following decomposition and volition of animal wastes. It is naturally occurring trace gas, but levels have increased considerably within increased agricultural practices (primarily pig or poultry farming). Ammonia reacts with acid pollutants such as the products of SO <sub>2</sub> and NO <sub>x</sub> emissions to produce fine ammonium (NH <sub>4</sub> ) containing aerosol which may be transferred much longer distances (Can therefore be a significant trans-boundary issue). | Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH <sub>3</sub> is rapidly deposited, some of the most acute problems of NH <sub>3</sub> are for small relict nature reserves located near to intensive agricultural landscapes. |
| Nitrogen oxides (NO <sub>x</sub> ) | Nitrogen oxides are mostly primarily produced in combustion processes, such as coal fire power stations.  | Deposition of nitrogen compounds (nitrates, nitrogen dioxide and nitrous oxide), can lead to both soil and freshwater acidification. In addition, nitrogen compounds can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.                           |
| Nitrogen deposition (N)            | The pollutants that contribute to nitrogen deposition are derived mainly from NO <sub>x</sub> and NH <sub>3</sub> emissions. These pollutants cause acidification (see also acid deposition) as well as eutrophication.   | Species-rich plant communities with relatively high proportions of slow growing perennial species and bryophytes are most at risk from nitrogen eutrophication, due to its promotion of competitive and invasive  |





| Pollutants                      | Source   | Effects on habitats and species   |
|---------------------------------|--|---|
|                                 |  | species which can respond readily to elevated levels of N. N disposition can also increase the risk of damage from abiotic factors e.g. drought and frost.  |
| Ozone (O <sub>3</sub> )         | A secondary pollutant generated by photochemical reactions from NO <sub>x</sub> and volatile organic compounds. These are mainly released by the combustion of fossil fuels in the UK has led to a large increase in background ozone concentration, leading to an increased number of days when levels across the region are above 40ppb. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone. | Concentrations of O <sub>3</sub> above 40 ppb can be toxic to humans and wildlife and can affect buildings. Increased ozone concentrations may lead to a reduction in growth of agricultural crops decreased forest production and altered species composition in semi-natural plant communities. |
| Sulphur Dioxide SO <sub>2</sub> | Main sources of sulphur dioxide emission are electricity generation, industry and domestic fuel combustion. May also arise from shipping and increased atmospheric concentrations in busy ports. Total sulphur dioxide emissions have decreased substantially in the UK since the 1980's.  | Wet and dry depositions of sulphur dioxide acidify soils and freshwater, and alters the species composition of plant and associated animal communities. The significance of impacts depends on levels of deposition and the buffering capacity of soils.  |

2.4.61 Nitrogen deposition (i.e. primarily NO<sub>x</sub> and NH<sub>3</sub> emissions) has been included for air quality and risk of atmospheric nitrogen deposition as a key vulnerability/ factor affecting site integrity as part of the Site Improvement Plans (SIPs) for the following Habitats sites:

- Greater Thames Complex SIP – this covers the following Natura 2000 sites:
  - UK9009171 Benfleet and Southend Marshes SPA
  - UK9012031 Medway Estuary & Marshes SPA
  - UK9012021 Thames Estuary & Marshes SPA
  - UK9012011 The Swale SPA
- Essex Estuaries SIP - this covers the following Natura 2000 sites:
  - UK9009245 Blackwater Estuary (Mid-Essex Coast Phase 4) SPA



- UK9009243 Colne Estuary (Mid-Essex Coast Phase 2) SPA
- UK9009244 Crouch & Roach Estuaries (Mid-Essex Coast Phase 3) SPA
- UK9009242 Dengie (Mid-Essex Coast Phase 1) SPA
- UK0013690 Essex Estuaries SAC\*\*

2.4.62 This is because nitrogen deposition exceeds relevant 'critical loads' for these sites. Critical Loads are defined as: "a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge" <sup>6</sup>.

2.4.63 Therefore, where nitrogen deposition exceeds relevant critical loads there is a possibility that eutrophication, acidification and changes to habitat type will be caused, which could affect qualifying features of a Habitats site. Critical loads for nitrogen deposition are in units of kilogrammes of nitrogen per hectare per year (kg N/ha/year) and vary with habitat sensitivity<sup>7</sup>.

2.4.64 The leading cause of increased nitrogen deposition at Habitats sites are typically locally intensive agricultural practices, i.e., land spreading, outdoor pigs, high nutrient inputs on fields. This may result in protected habitats being altered, which may in turn, may impact the supporting species / qualifying features which rely on these specific habitats.

2.4.65 In addition, a key contributor to atmospheric pollution is transport related activities, which will be the main cause in Castle Point Borough. Increases of traffic on roads, may result in increases in air pollution (Ammonia NH<sub>3</sub>, Nitrogen Oxides NO<sub>x</sub> and Sulphur Dioxide SO<sub>2</sub>) from traffic emissions upon Habitats sites, where increases of traffic are within 200m, as referenced within the National Highways' Design Manual for Roads and Bridges (DMRB) - LA 105 -Air quality (vertical barriers)<sup>8</sup>.

2.4.66 Any potential impacts upon specific Habitats sites identified will need to consider habitat / pollution impacts information from the Air Pollution Information System (APIS).

2.4.67 With respect to nitrogen deposition on coastal and marine habitats, APIS advises that "littoral ecosystems, such as salt marshes or estuarine habitats may be under the dual threat of nutrient inputs from river inputs and atmospheric deposition"<sup>9</sup>

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<sup>6</sup> Air Pollution Information System. Critical Loads and Critical Levels - a guide to the data provided in APIS. Available from [http://www.apis.ac.uk/critical-loads-and-critical-levels-guide-data-provided-ap/#\\_Toc279788052](http://www.apis.ac.uk/critical-loads-and-critical-levels-guide-data-provided-ap/#_Toc279788052) [Accessed October 2023].

<sup>7</sup> IAQM. A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites v1.0 (June 2019). (June 2019). Available from <https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2019.pdf> [Accessed February 2025].

<sup>8</sup> National Highways' Design Manual for Roads and Bridges (DMRB) -LA 105 -Air quality (vertical barriers) (formerly HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15), Version 0.1.0, can be viewed at: [HTML Document View](#)

<sup>9</sup> [https://www.apis.ac.uk/overview/ecosystems/overview\\_coastal.htm](https://www.apis.ac.uk/overview/ecosystems/overview_coastal.htm)



- 2.4.68 Paragraph 5.2.8 of the Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites<sup>10</sup> states that: “Road transport emissions near to designated sites are often the result of many projects and plans located some distance from the site. It is normal in an air quality assessment to include traffic growth estimates using the Department of Transport’s TEMPRO35 growth factors or from a strategic transport model that explicitly includes traffic from other projects and/or plans.”
- 2.4.69 “The Design Manual for Roads and Bridges (DMRB) -LA 105 -Air quality (vertical barriers)<sup>11</sup> describes the approach for the assessment of the impact of emissions from schemes on the strategic road network. A quantitative air quality assessment is required if European Sites are within 200m of affected roads. Within this context, the distance of the affected road from the designated site is an important consideration. Air pollution levels fall sharply within the first few tens of metres from a road before reducing more slowly with distance. The air quality impact of a given change in traffic on a designated site where the relevant habitat/ species is 100 m from a road will be very different to one that abuts the road.”
- 2.4.70 Therefore, atmospheric pollution, primarily nitrogen deposition, should be considered and Air Quality has been scoped in for the HRA screening. Policies will be screened in which may result in an increase in cumulative vehicle numbers within the Borough or where development will be situated in close proximity to Benfleet and Southend Marshes SPA and Ramsar.
- 2.4.71 A Map showing the location of roads, Habitats sites within scope and Allocated Sites can be found in Appendix 5.

## 2.5 Screening Categorisation

- 2.5.1 Screening is set out in Chapter 3 of this report. Appendix 1 considers each policy in the Castle Point Plan and the results of the screening exercise are recorded, using the precautionary principle. Each policy and allocated site included in the Plan has been categorised using criteria in Table 7: Habitats Regulations Assessment Screening Categorisation below. This ‘traffic light’ system has been used to record the potential policies and allocated sites to have a Likely Significant Effect, using the system of colours in Table 5 below.

**Table 7: Habitats Regulations Assessment Screening Categorisation**

### Category A: Significant effects not likely

<sup>10</sup> ISAQM version 1.0 (June 2019). This can be viewed at: [air-quality-impacts-on-nature-sites-2019.pdf](#)

<sup>11</sup> Highways Agency National Highways’ Design Manual for Roads and Bridges (DMRB) -LA 105 -Air quality (vertical barriers) (formerly HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15), Version 0.1.0, can be viewed at: [HTML Document View](#)



Category A identifies those policies that would not result in a Likely Significant Effect and are considered to have no adverse effect. These policies can be 'screened out' and no further assessment is required. This is because, if there are no adverse effects at all, there can be no adverse effect to contribute to in-combination effects of other plans or projects.

### **Category B: Significant effects uncertain**

Category B identifies those policies which will have no significant adverse effect on any Habitats site from the Plan alone. That is, there could be some effect but none which would undermine the conservation objectives, when the policy is considered on its own. Given that there may be some effect this then needs to be considered in combination with other plans or projects. If these effects can be excluded in-combination, the policy can be screened out and no further assessment required. However, if the possibility of a significant adverse effect in combination cannot be ruled out there will be a Likely Significant Effect in combination, and Appropriate Assessment will be required.

### **Category C: Likely Significant Effect**

Category C identifies those policies which cannot be ruled out as having a Likely Significant Effect upon a Habitats site, alone, that is the effect could undermine the conservation objectives. In this case an Appropriate Assessment is triggered without needing to consider in-combination effects at screening stage, although they may need to be considered at Appropriate Assessment.



## 3. Screening of Likely Significant Effects

### 3.1 Summary of the Scoping Process Screening for Likely Significant Effect

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- 3.1.1 This chapter summarises the potential for Likely Significant Effects identified, based upon Chapter 2 and using Categories A, B and C above. It advises where Likely Significant Effects can be ruled out. The need for an 'Appropriate Assessment' is triggered where the HRA Screening stage identifies policies which have potential for a Likely Significant Effect on any Habitats sites before taking mitigation into account (see Appendix 1).
- 3.1.2 The Emerging Castle Point Plan Regulation 18 - Issues and Options Habitats Regulations Assessment Scoping Report Scoping Report (May 2024) sets out which Habitats sites have been scoped in for further consideration.
- 3.1.3 The key Habitats sites information (i.e. the qualifying features and conservation objectives of the Habitats sites) together with current pressures and potential threats have been referenced. Impact Risk Zones (IRZ) have been interrogated on MAGIC and these help to show which elements may have an effect.
- 3.1.4 The Habitats sites scoped in or out are set out in Table 8 below. Impacts on Habitats sites over 20km from the Plan area have been scoped out for Likely Significant Effects due to the distance and the identified Impact Risk Zones on the MAGIC Map. This distance is considered to be over precautionary for a water pollution and air quality impact pathways. This is based on previous advice from Natural England.
- 3.1.5 Where Zones of Influence for recreational disturbance are greater than 20km, these Habitats sites are also included, i.e. Blackwater SPA & Ramsar site and Dengie SPA and Ramsar site.
- 3.1.6 There are three non-coastal Habitats sites in north Kent that are within the 20km radius and so were initially scoped in by the Emerging Castle Point Plan Regulation 18- Issues and Options Habitats Regulations Assessment Scoping Report Scoping Report. However, as there are no impact pathways they have now been scoped out from further consideration. These are:
- North Downs Woodlands SAC
  - Peters Pit SAC
  - Queendown Warren SAC
- 3.1.7 Natural England advised in its consultation response of 18<sup>th</sup> September 2024 that a Marine Conservation Zone Assessment for the Blackwater, Crouch, Roach and Colne Estuaries



Marine Conservation Zone (MCZ) is not currently required due to the distance between the Castle Point LP Area and the MCZ (Over 4km) and development within the Local Plan boundary is unlikely to impact the MCZ features.

- 3.1.8 The list of Habitats sites, their qualifying features and conservation objectives can be found in Appendix 2 including web links to further information. The list of key vulnerabilities / factors affecting site integrity can also be found in Appendix 2.
- 3.1.9 A map of the Habitats sites within 20km of the Borough boundary has been included in Appendix 3.

**Table 8. Lists of Habitats sites within 20km and the scope of the screening assessment**

| Habitats Site  | Location  | Included within screening assessment? |
|--|---|---------------------------------------|
| Benfleet and Southend Marshes SPA and Ramsar site                        | South Essex on the Thames coastline coast, including Hadleigh Ray between the north-east coastline of Canvey Island and southern edge of Hadleigh Castle County Park. | Yes                                   |
| Blackwater Estuary (Mid-Essex Coast Phase 4) SPA and Ramsar site         | Estuary from Maldon to Mersea Island.   | Yes                                   |
| Crouch and Roach Estuaries (Mid-Essex Coast Phase 3) SPA and Ramsar site | Estuaries from South Woodham Ferrers, between Dengie Peninsular and Foulness.   | Yes                                   |
| Dengie (Mid-Essex Coast Phase 1) SPA and Ramsar site                     | Dengie Peninsula, east of Maldon and Burnham-on-Crouch.   | Yes                                   |
| Essex Estuaries SAC  | Estuaries from Clacton on Sea to Southend.  | Yes                                   |
| Foulness (Mid-Essex Coast Phase 5) SPA and Ramsar site                   | Covers southeast corner of Essex, near Southend.  | Yes                                   |
| Medway Estuary and Marshes SPA and Ramsar site                           | Estuary near Sheerness (Kent).  | Yes                                   |



| Habitats Site                                  | Location  | Included within screening assessment? |
|--|---|---------------------------------------|
| North Downs Woodlands SAC                      | Woodland site to south and south west of Rochester (Kent)   | No                                    |
| Outer Thames Estuary SPA (marine)              | Covers most marine areas near to Essex coast.   | Yes                                   |
| Peters Pit SAC                                 | South of Rochester (Kent)   | No                                    |
| Queendown Warren SAC                           | South east of Gillingham (Kent)   | No                                    |
| Thames Estuary and Marshes SPA and Ramsar site | A small area at Mucking, Essex, 4km east (upstream) of site and a large amount on North Kent coast. | Yes                                   |
| The Swale SPA and Ramsar site                  | Estuary south of the Isle of Shelley (Kent)   | Yes                                   |

## 3.2 Summary of the Scoping process Screening for Likely Significant Effect

- 3.2.1 The methodology for the Screening stage is set out in Chapter 2 above. Six impact pathways have been identified, with specific reference to Castle Point Borough, and as listed in Table 8 above, eighteen Habitats sites have been scoped in for HRA screening.
- 3.2.2 Where the Local Plan is likely to result in a significant effect, or where there is uncertainty, in line with the precautionary approach being applied in the HRA, until significant effects can be ruled out, they are treated as giving rise to Likely Significant Effects.
- 3.2.3 A summary of the assessment for all policies is set out in Appendix 1: HRA Screening of Individual Policies. Conclusions take into account the potential effects of other plans and projects within the in-combination assessment. Each Allocated Site is considered in the context of the Screening criteria above.
- 3.2.4 Table 9, below, lists the policies that have been assessed as having the potential to cause a Likely Significant Effect with the potential impact pathways before taking mitigation into account and therefore require Appropriate Assessment. The complete list of policies is set out within the Screening Table in Appendix 1.

**Table 9. Policies that may cause Likely Significant Effects, showing Impact Pathways**

| Policy/ Site reference                                 | Land take | Impacts on protected species outside the designated site | Disturbance | Water Quality | Water Quantity | Air Pollution | Screening Categorisation |
|--|-----------|--|-------------|---------------|----------------|---------------|--------------------------|
| Policy SP3 Meeting Development Needs                   | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy C1 - Canvey Town Centre                         | X         | X  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy C2 - Canvey Seafront Entertainment Area         | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category C    |
| Policy C3 - Canvey Port Facilities                     | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy C4 West Canvey                                  | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy C5- Improved Access to and around Canvey Island | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy C6 - The South Canvey Green Lung                | X         | ✓  | ✓           | ✓             | X              | X             | Screen In, Category C    |
| Policy C7- Canvey Lake                                 | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category C    |
| Policy C8 - Residential Park Home Sites, Canvey Island | X         | ✓  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy C9 - Land at the Point, Canvey Island           | X         | X  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy C10 - Other Housing Site                        | X         | X  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |





| Policy/ Site reference                                 | Land take | Impacts on protected species outside the designated site | Disturbance | Water Quality | Water Quantity | Air Pollution | Screening Categorisation |
|--|-----------|--|-------------|---------------|----------------|---------------|--------------------------|
| Allocations on Canvey Island.                          |           |  |             |               |                |               |                          |
| Policy B1 – South Benfleet Town Centre                 | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy B2 – Tarpots Town Centre                        | X         | X  | X           | ✓             | X              | X             | Screen In, Category B    |
| Policy B3 – Former Furniture Kingdom site              | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy B4 - South Benfleet Leisure Quarter             | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy B5 – Canvey Supply, London Road, Benfleet       | X         | X  | ✓           | X             | X              | X             | Screen In, Category B    |
| Policy B6 – 159-169 Church Rd                          | X         | X  | ✓           | X             | X              | X             | Screen In, Category B    |
| Policy B7 – Other Housing Site Allocations in Benfleet | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy B8 – Manor Trading Estate                       | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy B9 – South Benfleet Playing Fields              | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy Had1 – Hadleigh Town Centre                     | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |



| Policy/ Site reference   | Land take | Impacts on protected species outside the designated site | Disturbance | Water Quality | Water Quantity | Air Pollution | Screening Categorisation |
|--|-----------|--|-------------|---------------|----------------|---------------|--------------------------|
| Policy Had2 - Hadleigh Country Park, Hadleigh Farm and Benfleet and Southend Marshes | X         | X  | ✓           | X             | X              | X             | Screen In, Category B    |
| Policy Had3 – Hadleigh Clinic  | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy Had4 - Land south of Scrub Lane   | X         | X  | ✓           | X             | X              | X             | Screen In, Category B    |
| Policy Thun1 – Thundersley Village   | X         | X  | ✓           | X             | X              | X             | Screen In, Category B    |
| Policy Thun2 - Kiln Rd Campus  | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy Thun 3 - Other Site Allocations in Thundersley                                | X         | X  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy Hou4 – Specialist Housing Requirements  | X         | ✓  | ✓           | ✓             | X              | X             | Screen In, Category C    |
| Policy Hou5 - Park Homes   | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy Hou6 - Gypsy and Traveller Provision  | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy E1- Development on Strategic Employment Land                                  | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |





| Policy/ Site reference   | Land take | Impacts on protected species outside the designated site | Disturbance | Water Quality | Water Quantity | Air Pollution | Screening Categorisation |
|--|-----------|--|-------------|---------------|----------------|---------------|--------------------------|
| Policy Infra4 – Open Spaces  | X         | ✓  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy Infra6 - Communications Infrastructure                            | X         | ✓  | ✓           | ✓             | X              | X             | Screen In, Category B    |
| Policy T1 - Transport Strategy   | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy T2 - Highway Improvements   | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy T3 - Active Travel Improvements                                   | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category B    |
| Policy T4 - Improvements to Public Transport Infrastructure and Services | X         | ✓  | ✓           | ✓             | X              | ✓             | Screen In, Category B    |
| Policy SD1 - Tidal Flood Risk Management                                 | ✓         | ✓  | ✓           | ✓             | X              | X             | Screen In, Category C    |
| Policy SD2 - Non-Tidal Flood Risk Management                             | X         | X  | X           | ✓             | ✓              | X             | Screen In, Category B    |
| Policy SD3 - Sustainable Urban Drainage Systems (SUDS)                   | X         | X  | X           | ✓             | X              | X             | Screen In, Category C    |
| Policy SD6 - Pollution Control   | X         | X  | ✓           | ✓             | X              | ✓             | Screen In, Category C    |
| Policy SD9 – Water Supply and Waste Water                                | X         | X  | X           | ✓             | ✓              | X             | Screen In, Category C    |



### 3.3 Policies carried forward to Appropriate Assessment Stage

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- 3.3.1 All policies and Allocated Sites are shown in the HRA Screening Table in Appendix 1 (HRA Screening of Individual Policies) and those marked red or amber are screened in as having the potential for Likely Significant Effects, alone or in combination with other plans and projects, before taking mitigation into account. They therefore require Appropriate Assessment, where mitigation can be considered.

### 3.4 Habitats Sites within Scope for Appropriate Assessment

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- 3.4.1 The screening assessment has identified 78 policies and Allocated Sites needing to be taken forward to AA.
- 3.4.2 The potential impact pathways between Habitats sites and Local Plan policies/ Allocated sites identified at Screening Stage are shown in Tables 10, 11, 12, 13, 14 and 15 below.
- 3.4.3 The Outer Thames Estuary SPA, despite being located partially within the waters of the Local Plan area, has been screened out from having any potential effects associated with loss of habitat because it is designated for marine bird species (Red-throated diver (Non-breeding), Common tern (Breeding), Little tern (Breeding)) which do not rely upon the terrestrial habitats within the Local Plan area.

#### **Land take**

- 3.4.4 There is one policy which could result in a direct land take of a Habitats site. This includes the following:
- Policy SD1 - Tidal Flood Risk Management
- 3.4.5 Coastal defences exist along much of the Castle Point coastline and sea level rise is also occurring. The Site Improvement Plan for the Greater Thames Complex of SPAs identifies that it is therefore certain that if circumstances do not change, much of the supporting habitats of SPA designated birds will be lost / degraded through processes such as: coastal squeeze; sedimentation rates' inability to keep pace with sea level rise; and reduced exposure (the extent and duration) of mudflats and sandflats.
- 3.4.6 The sea wall on Canvey Island requires strengthening works and the Environment Agency -as the competent authority- needs to consider if any Likely Significant Effects can be avoided in a project level HRA. Some of this work has recently been undertaken along the southern section of wall.
- 3.4.7 Any mitigation measures for Policy SD1 of the Castle Point Plan will need to be considered at Stage 2 Appropriate Assessment.



**Table 10: Habitats sites and examples of LSE identified for Land Take pathway at Screening Stage**

| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?   | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|---|--|
| Benfleet and Southend Marshes SPA and Ramsar site   | <p>Any Land Take with a Habitats site is likely to have a direct adverse impact upon site integrity through habitat loss or degradation.</p> <p>There is a causal pathway between development proposed by the Local Plan and Habitats sites.</p> <p>Housing, employment and retail Allocated Sites are not proposed within the boundaries of any Habitats Sites.</p> <p>However, SD1 supports works that could cause an effect, e.g. by supporting the maintenance of sea walls at Canvey Island, leading to direct loss of habitat through the sea wall construction process or the knock-on effects of coastal squeeze.</p> <p>It also supports not maintaining sea walls at Benfleet Marshes, thereby allowing tidal flooding onto the terrestrial areas of Benfleet and Southend Marshes SPA and Ramsar site which could alter the habitat type from terrestrial to intertidal.</p> <p>LSE could therefore be caused by Policy SD1 - Tidal Flood Risk Management.</p> | <p>Yes. Without mitigation to protect against this, potential LSE cannot be ruled out. Progress to AA.</p>       |

### **Impacts on qualifying species outside the designated site (Functionally Linked Land)**

3.4.8 There are 23 policies and Sites Allocations which have the potential to support qualifying bird species outside of the Habitats site for which they are listed.



**Table 11: Habitats sites and examples of LSE identified for Functionally Linked Land pathway at Screening stage**

| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats Site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|--|--|
| Benfleet and Southend Marshes SPA and Ramsar site   | There is a causal pathway between development proposed by the Local Plan and Habitats Sites. Qualifying birds may also use land outside of the designated sites, e.g. Black-tailed Godwit. The Local Plan may prevent future use of these areas. Some policies/ allocations may cause an effect, e.g. land loss through housing and employment sites, highway improvements and flood management.   | Yes.   |
| Thames Estuary and Marshes SPA and Ramsar   | Without mitigation, potential LSE cannot be ruled out. Progress to AA.   |  |
|   | LSE could therefore be caused by the following policies and allocated sites:   |  |
|   | Policy SP3 - Meeting Development Needs<br>Policy C3 - Canvey Port Facilities<br>Policy C4 West Canvey<br>Policy C5- Improved Access to and around Canvey Island<br>Policy C6 - The South Canvey Green Lung<br>Policy C8 Residential Park Home Sites, Canvey Island<br>Policy Hou4 – Specialist Housing Requirements<br>Policy Hou5 - Park Homes<br>Policy Hou6 - Gypsy and Traveller Provision<br>Policy E1- Development on Strategic Employment Land<br>Policy E4 – Culture and Tourism<br>Policy TC3 - Retail Parks and Out of Centre Locations<br>Policy GB1 – Development affecting the Green Belt<br>Policy GB2 – Previously Developed Land in the Green Belt<br>Policy ENV2 – Coastal & Riverside Strategy<br>Policy Infra4 – Open Spaces<br>Policy Infra6 - Communications Infrastructure |  |





| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats Site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|--|--|
|   | Policy T1 - Transport Strategy<br>Policy T2 - Highway Improvements<br>Policy T3 - Active Travel Improvements<br>Policy T4 - Improvements to Public Transport Infrastructure and Services<br>Policy SD1 - Tidal Flood Risk Management |  |

## Disturbance

3.4.9 There are 52 policies and Site Allocations which have the potential to result in disturbance, including recreational disturbance, upon a Habitats site based on their proximity.

**Table 12: Habitats sites and examples of LSE identified for Disturbance at Screening Stage**

| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?   | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination?                     |
|---|---|--|
| Benfleet and Southend Marshes SPA and Ramsar site   | There is a causal pathway between development proposed by the Local Plan and Habitats sites.  | Yes.   |
| Blackwater Estuary SPA and Ramsar site  | Castle Point Borough is within the Zone of Influence for recreational Disturbance for the Habitats sites within scope of this Assessment. All housing policies are therefore screened in. Policies/ Site Allocations may affect qualifying features (mainly birds). | Without mitigation disturbance cannot be ruled out as a potential LSE. This includes recreational and non- recreational disturbance. |
| Foulness SPA and Ramsar site  | Recreational activities supported by the Local Plan   |  |



| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)?  | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?   | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|--|---|--|
| <p>Dengie SPA and Ramsar site</p> <p>Crouch and Roach SPA and Ramsar site</p> <p>Essex Estuaries SAC</p> <p>Thames Estuary and Marshes SPA and Ramsar site</p> | <p>may also cause a rise in disturbance to qualifying birds within designated sites and on other land.</p> <p>Any new roads in West Canvey would be likely to create a Disturbance. The ports may cause a variety of disturbances to Benfleet and Southend Marshes SPA and Ramsar site, or FLL of the Thames Estuary and Marshes SPA and Ramsar site, e.g. disturbance to birds from boats, people and machinery on land and bringing in of non-native species.</p> <p>There are also Site Allocations on/ near to Canvey Island with potential for other forms of Disturbance- e.g. noise and lighting during construction.</p> <p>Policy SD6 - Pollution Control provides embedded mitigation.</p> <p>LSE could therefore be caused by the following policies and Allocated Sites:</p> <p>Policy SP3 - Meeting Development Needs</p> <p>Policy C1 - Canvey Town Centre</p> <p>Policy C2 - Canvey Seafront Entertainment Area</p> <p>Policy C3 - Canvey Port Facilities</p> <p>Policy C4 West Canvey</p> <p>Policy C5- Improved Access to and around Canvey Island</p> <p>Policy C6 - The South Canvey Green Lung</p> <p>Policy C7- Canvey Lake</p> <p>Policy C8 Residential Park Home Sites, Canvey Island</p> <p>Policy C9 - Land at the Point, Canvey Island</p> <p>Policy C10 - Other Housing Site Allocations on Canvey Island.</p> <p>Policy B1 – South Benfleet Town Centre</p> | <p>Need to progress to AA.</p>   |



| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?   | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|---|--|
|   | Policy B3 – Former Furniture Kingdom site<br>Policy B4 - South Benfleet Leisure Quarter<br>Policy B5 – Canvey Supply, London Road, Benfleet<br>Policy B6 – 159-169 Church Rd<br>Policy B7 – Other Housing Site Allocations in Benfleet<br>Policy B8 – Manor Trading Estate<br>Policy B9 – South Benfleet Playing Fields<br>Policy Had1 – Hadleigh Town Centre<br>Policy Had2 - Hadleigh Country Park, Hadleigh Farm and Benfleet and Southend Marshes<br>Policy Had3 – Hadleigh Clinic<br>Policy Had4 - Land south of Scrub Lane<br>Policy Thun1 – Thundersley Village<br>Policy Thun2 - Kiln Rd Campus<br>Policy Thun 3 - Other Site Allocations in Thundersley<br>Policy Hou4 – Specialist Housing Requirements<br>Policy Hou5- Park Homes<br>Policy Hou6 - Gypsy and Traveller Provision<br>Policy E1- Development on Strategic Employment Land<br>Policy E2- Development of New Employment Floorspace in and around Town Centres<br>Policy E4 – Culture and Tourism<br>Policy TC1 - Town Centres<br>Policy TC2 - Local Shopping Parades<br>Policy TC3 - Retail Parks and Out of Centre Locations<br>Policy GB1 – Development affecting the Green Belt<br>Policy GB2 – Previously Developed Land in the Green Belt<br>Policy ENV2 – Coastal & Riverside Strategy<br>Policy Infra4 – Open Spaces<br>Policy Infra6 - Communications Infrastructure<br>Policy T1 - Transport Strategy<br>Policy T2 - Highway Improvements<br>Policy T3 - Active Travel Improvements |  |



| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|--|--|
|   | Policy T4 - Improvements to Public Transport Infrastructure and Services<br>Policy SD1 - Tidal Flood Risk Management<br>Policy SD6 - Pollution Control |  |

## Water Quality

3.4.10 There are 44 policies and Site Allocations which have the potential to result in adverse water quality upon a Habitats site based on their proximity to potential impact pathways. These are listed in Table 13 below.

**Table 13: Habitats Sites and examples of LSE identified for Water Quality pathway at Screening Stage**

| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?   | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|---|--|
| Benfleet and Southend Marshes SPA and Ramsar site   | There is a causal pathway between development proposed by the Local Plan and Habitats sites, via fluvial, surface water and tidal flooding, particularly due to the topography of low lying land on Canvey Island and the steep escarpment on the main land, adjacent to coast. | Yes. Without mitigation, water quality cannot be ruled out as a potential LSE. Need to progress to AA.           |
| Blackwater Estuary SPA and Ramsar site  | Increased development without sufficient processes in place e.g. water recycling centres and sufficient SuDS. Construction processes of   |  |



| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)?  | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination?              |
|--|--|---|
| <p>Foulness SPA and Ramsar site</p> <p>Crouch and Roach SPA and Ramsar site</p> <p>Essex Estuaries SAC</p> <p>Thames Estuary and Marshes SPA and Ramsar site</p> | <p>any kind, particularly near to water courses, the effects of which can be transported considerable distances.</p> <p>Policies SD3 - Sustainable Urban Drainage Systems (SUDS), SD6 - Pollution Control and SD9 – Water Supply and Waste Water provide embedded mitigation.</p> <p>LSE could therefore be caused by the following policies and allocated sites:</p> <p>Policy SP3 - Meeting Development Needs</p> <p>Policy C1 - Canvey Town Centre</p> <p>Policy C2 - Canvey Seafront Entertainment Area</p> <p>Policy C3 - Canvey Port Facilities</p> <p>Policy C4 West Canvey</p> <p>Policy C5- Improved Access to and around Canvey Island</p> <p>Policy C6 - The South Canvey Green Lung</p> <p>Policy C7- Canvey Lake</p> <p>Policy C8 Residential Park Home Sites, Canvey Island</p> <p>Policy C9 - Land at the Point, Canvey Island</p> <p>Policy C10 - Other Housing Site Allocations on Canvey Island.</p> <p>Policy B1 – South Benfleet Town Centre</p> | <p>It would be over precautionary Outer Thames Estuary SPA due to the distance of the impact pathway to this marine site.</p> |



| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|--|--|
|   | <p>Policy B2 – Tarpots Town Centre</p> <p>Policy B3 – Former Furniture Kingdom site</p> <p>Policy B4 - South Benfleet Leisure Quarter</p> <p>Policy B7 – Other Housing Site Allocations in Benfleet</p> <p>Policy B8 – Manor Trading Estate</p> <p>Policy B9 – South Benfleet Playing Fields</p> <p>Policy Had1 – Hadleigh Town Centre</p> <p>Policy Had3 – Hadleigh Clinic</p> <p>Policy Thun2 - Kiln Rd Campus</p> <p>Policy Thun 3 - Other Site Allocations in Thundersley</p> <p>Policy Hou4 –Specialist Housing Requirements</p> <p>Policy Hou5 - Park Homes</p> <p>Policy Hou6 - Gypsy and Traveller Provision</p> <p>Policy E1- Development on Strategic Employment Land</p> <p>Policy E2- Development of New Employment Floorspace in and around Town Centres</p> <p>Policy E4 – Culture and Tourism</p> <p>Policy TC1 - Town Centres</p> <p>Policy TC3 - Retail Parks and Out of Centre Locations</p> |  |



| Which Habitats Site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination? |
|---|--|--|
|   | Policy GB1 – Development affecting the Green Belt<br>Policy ENV2 – Coastal & Riverside Strategy<br>Policy Infra4 – Open Spaces<br>Policy Infra6 - Communications Infrastructure<br>Policy T1 - Transport Strategy<br>Policy T2 - Highway Improvements<br>Policy T3 - Active Travel Improvements<br>Policy T4 - Improvements to Public Transport Infrastructure and Services<br>Policy SD1 - Tidal Flood Risk Management<br>Policy SD2 - Non-Tidal Flood Risk Management<br>Policy SD3 - Sustainable Urban Drainage Systems (SUDS)<br>Policy SD6 - Pollution Control<br>Policy SD9 – Water Supply and Waste Water |  |

3.4.11 This includes policies which are intended to have a positive effect and / or to provide measures to avoid or reduce impacts on the environment (mitigation) and so therefore will be considered at Appropriate Assessment.

### Water Quantity

3.4.12 There are two policies which have the potential to result in adverse water quantity upon a Habitats site based on their proximity to potential impact pathways or ability to affect them. These are listed in Table 14 below.





**Table 14: Habitats sites and examples of LSE identified for Water Quantity pathway at Screening Stage**

| Which Habitats site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)?  | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?   | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination?? |
|--|---|---|
| Benfleet and Southend Marshes SPA and Ramsar site<br>Blackwater Estuary SPA and Ramsar site<br>Foulness SPA and Ramsar site<br>Dengie SPA and Ramsar site<br>Crouch and Roach SPA and Ramsar site<br>Essex Estuaries SAC<br>Thames Estuary and Marshes SPA and Ramsar site | Development without sufficient processes in place for flooding control and water efficiency; increased abstraction.<br><br>Systems (SUDS), SD6 - Pollution Control and SD9 – Water Supply and Waste Water provide embedded mitigation.<br><br>LSE could therefore be caused by the following policies and allocated sites:<br><br>Policy SD2 - Non-Tidal Flood Risk Management<br>Policy SD9 – Water Supply and Waste Water | Yes.<br>Without mitigation, water quantity cannot be ruled out as a potential LSE. Need to progress to AA.        |

3.4.13 This includes SD9: Water Supply and Waste Water is intended to have a positive effect and/ or to provide measures to avoid or reduce impacts on the environment (mitigation) and so therefore will be considered at Appropriate Assessment.

## Air Quality

3.4.14 There are 21 policies and Site Allocations which have the potential to result in adverse air quantity upon a Habitats site based on their proximity to potential impact pathways. These are listed in Table 15 below.

**Table 15: Habitats sites and examples of LSE identified for Air Quality pathway at Screening Stage**



| Which Habitats site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?  | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination??  |
|---|--|--|
| <p>Benfleet and Southend Marshes SPA and Ramsar site</p> <p>Thames Estuary and Marshes SPA and Ramsar site</p>    | <p>There is a causal pathway between development proposed by the Local Plan and Habitats sites.</p> <p>Traffic is considered the main contributor to reduction in air quality in the Borough.</p> <p>E.g. encouraging development and any highway improvements near to Habitats site; third access to Canvey Island; construction processes of any kind.</p> <p>Policy SD6 - Pollution Control provides embedded mitigation.</p> <p>LSE could therefore be caused by the following policies and allocated sites:</p> <p>Policy SP3 - Meeting Development Needs<br/>         Policy C1 - Canvey Town Centre<br/>         Policy C3 - Canvey Port Facilities<br/>         Policy C4 West Canvey<br/>         Policy C5- Improved Access to and around Canvey Island<br/>         Policy C9 - Land at the Point, Canvey Island<br/>         Policy C10 - Other Housing Site Allocations on Canvey Island.<br/>         Policy Hou5 - Park Homes<br/>         Policy Hou6 - Gypsy and Traveller Provision<br/>         Policy E1- Development on Strategic Employment Land<br/>         Policy TC1 - Town Centres<br/>         Policy TC3 - Retail Parks and Out of Centre Locations<br/>         Policy GB2 – Previously Developed Land in the Green Belt<br/>         Policy T1 - Transport Strategy<br/>         Policy T2 - Highway Improvements</p> | <p>Yes.</p> <p>Without mitigation, air quality cannot be ruled out as a potential LSE. Need to progress to AA.</p> |



| Which Habitats site(s) could the Castle Point Plan affect (alone or in combination with other plans and project)? | How the Castle Point Plan (alone or in combination with other plans and projects) could affect a Habitats site?                                      | Likely to result in Significant Effect and therefore require further assessment, either alone or in combination?? |
|---|--|---|
|   | Policy T3 - Active Travel Improvements<br>Policy T4 - Improvements to Public Transport Infrastructure and Services<br>Policy SD6 - Pollution Control |   |

### 3.5 HRA Screening Conclusion and Considering the Next Stage

- 3.5.1 The range of potential Likely Significant Effects on Habitats sites arising from the Castle Point Plan Regulation 19 Working Draft have been considered and assessed.
- 3.5.2 The Screening Assessment has identified 57 policies and Allocated Sites needing to be taken forward to AA.
- 3.5.3 There are potential six impact pathways connecting these policies and Allocated Sites to eleven Habitats sites.
- 3.5.4 The Outer Thames Estuary SPA, despite being located partially within the waters of the Castle Point Plan area, has been screened out from having any potential effects associated with loss of habitat because it is designated for marine bird species (Red-throated diver (Non-breeding), Common tern (Breeding), Little tern (Breeding)) which do not rely upon the terrestrial habitats within the Plan.
- 3.5.5 In line with the Court judgment (CJEU People Over Wind v Coillte Teoranta C-323/17), mitigation measures cannot be taken into account when carrying out a HRA screening assessment to decide whether a plan or project is likely to result in Likely Significant Effects on a Habitats site. Consequently, HRA Screening has concluded that it is not possible to rule out the potential for Likely Significant Effects without further assessment and possible mitigation for the indicated policies and Allocated Sites. These are listed in the tables above.
- 3.5.6 There are a number of policies that provide mitigation and so these need to be taken to Stage 2 Appropriate Assessment. The key policies which may help to provide mitigation



are ENV3 Securing Nature Recovery and Biodiversity Net Gain; SD3: Sustainable Urban Drainage Systems (SUDS); SD6 Pollution Control; and SD7: Water Supply and Waste Water.

- 3.5.7 An Appropriate Assessment is therefore required under the Conservation of Habitats and Species Regulations 2017 (as amended). The Castle Point Plan may only be adopted after having ascertained that it will not result in adverse effect on integrity of the above-mentioned Habitats sites within scope of this assessment.
- 3.5.8 The Appropriate Assessment is an iterative process as measures can be incorporated in order to be able to ascertain that there is no significant adverse effect on the integrity, before re-screening and making a final assessment.
- 3.5.9 The Appropriate Assessment stage shall also consider impacts in combination with other plans and projects, thus no detailed consideration on cumulative effects have been considered as part of this screening assessment.



## 4. The Appropriate Assessment process and Considering Adverse Effects on Integrity of Habitats Sites

### 4.1 Introduction and Outline Methodology

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- 4.1.1 As policies within the Castle Point Plan Regulation 19 have been screened in as having the potential to cause Likely Significant Effects without considering mitigation measures, Castle Point Borough Council, as the competent authority, needs to undertake further assessment.
- 4.1.2 This should involve an 'Appropriate Assessment' of the implications of the Castle Point Plan, either alone or in combination with other plans or projects, in order to establish whether there may be an Adverse Effect on the Integrity of any Habitats sites within scope of this assessment, in view of their Conservation Objectives.
- 4.1.3 This stage is to undertake objective scientific assessment of the implications of the Local Plan on the Qualifying Features of the listed Habitats sites using the best scientific knowledge in the field. It should apply the best available techniques and methods to assess the extent of the effects of the Local Plan on the integrity of the Habitats sites. The description of the site's integrity and the impact assessment should be based on the best possible indicators specific to the Habitat sites' qualifying features, which can also be useful in monitoring the impact of the Local Plan's implementation.
- 4.1.4 The Appropriate Assessment should assess all aspects of the Local Plan which can by themselves, or in combination with other plans and projects, affect the Conservation Objectives of one or more Habitats sites although these are not set for Ramsar sites. The assessment must consider the implications for each qualifying feature of each potentially affected Habitats site. The focus of the appropriate assessment is therefore on the species and / or the habitats for which the Habitats site is designated.
- 4.1.5 The best scientific knowledge<sup>12</sup> should be used when carrying out the Appropriate Assessment in order to enable the competent authority to conclude with certainty that there will be no Adverse Effect on the Integrity of any Habitats site. This will therefore support a conclusion that is "beyond scientific doubt".
- 4.1.6 It is important that the Appropriate Assessment provides a better understanding of potential effects and can therefore assist in the identification of mitigation measures where possible to avoid, reduce or cancel significant effects on Habitats sites which could be applied when undertaking the 'integrity test'. All mitigation measures built into the Local Plan can be taken

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<sup>12</sup> Waddenzee ruling (C-127/02 paragraphs 52-54, 59)



into account. The Appropriate Assessment is an iterative process, re-assessing changes and new or different avoidance and reduction measures, before making its final conclusion. It must be clear which mitigation measures are being relied upon in order to meet the integrity test.

- 4.1.7 The integrity test must apply the precautionary principle. However, plan level assessments are less precise than project assessments, and so it is important for the assessment process to eliminate the prospect of adverse effects integrity insofar as it is possible, given the level of specificity of this Local Plan. It is also highlighted that advice has been provided from the European Court of Justice regarding the ‘tiering’ of HRAs where there are multiple levels of plan-making, recognising that the purpose of a high-level plan is to set out broad policies and intentions without going into any detail. When the UK was first required to undertake HRA of plans, Advocate-General Kokott commented on the apparent tension between the requirements of the Habitats Directive and the intentionally vague nature of high-level strategic plans. She responded that to address this apparent tension ‘It would ...hardly be proper to require a greater level of detail in preceding plans [rather than lower tier plans or planning applications] or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan [emphasis added]. This assessment is to be updated with increasing specificity in subsequent stages of the procedure’ [*i.e.* for planning applications or lower tier plans] (Opinion of Advocate-General Kokott, 2005).
- 4.1.8 Explicitly enshrining the requirement for project-level HRA in the plans – since it is not possible to rule out adverse effects on the integrity of many Habitats sites due simply to the high-level nature of the plan policies, ‘down-the-line’ assessment becomes essential.
- 4.1.9 In order to fulfil the above requirements, this Appropriate Assessment will therefore use the following step by step process, and will be structured by the potential impact pathways.

## 4.2 Policies / Allocations screened in and Habitats sites within Scope

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- 4.2.1 The Likely Significant Effects considered at Screening stage have been carried forward for consideration at Appropriate Assessment. The policies / Site Allocations and their potential to have adverse effects on any Habitats site through the identified impact pathways are now considered in more detail, for example direct and indirect effects; extent of the effects (habitat area, species numbers or areas of occurrence); importance and magnitude (e.g. considering the affected area or population in relation to the total area and population size).
- 4.2.2 This assessment has considered potential development sites in the Green Belt to help identify whether any would have an adverse impact on the integrity of Habitats sites.



Therefore, Appendix 1 also includes the potential Green Belt sites that were considered at Screening Stage and helped to inform the final choice of Allocated Sites.

- 4.2.3 Table 9 lists the Habitats sites identified at Screening stage and shows the potential impact pathways and key Likely Significant Effects identified.
- 4.2.4 The policies and allocations listed in Table 8 have the potential to cause a likely significant effect upon the Habitats sites and are within the scope of this assessment.
- 4.2.5 Key vulnerabilities of each Habitats site are set out in Appendix 2 using the relevant Site Improvement Plans. Site Improvement Plans were developed for each Habitats site in England as part of the 'Improvement Programme for England's Natura 2000 sites (IPENS)' but they do not include Ramsar sites. Each Site Improvement Plan provides a high level overview of the issues (both current and predicted) affecting the condition of the qualifying features on the site(s) and outlines the priority measures required to improve the condition of the features. These can be found at: <http://publications.naturalengland.org.uk/category/5458594975711232>.
- 4.2.6 Additional- and more up to date- information is also provided for each site on the Designated Sites website and this information has been interrogated. Of particular relevance is the Advice on Operations for Benfleet and Southend Marshes SPA and Thames Estuary and Marshes SPA, which can be found at:
- <https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9009171&SiteName=benfleet+and+southend+marshes&SiteNameDisplay=Benfleet+and+Southend+Marshes+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea>
  - <https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9012021&SiteName=&SiteNameDisplay=Thames+Estuary+and+Marshes+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=&NumMarineSeasonality=8,8>
- 4.2.7 The Advice on Operations is for features within the Habitats site (i.e. not Functionally Linked Land).
- 4.2.8 For Benfleet and Southend Marshes SPA, it provides the marine site detail. The following marine activities are listed here which help to provide an initial assessment of whether a policy or Allocated Site may have an impact on a feature in the Habitats site:
- Aggregate extraction
  - Aquaculture
  - Beach management
  - Cables





- Coastal development and flood and erosion risk management schemes (construction, maintenance and operation)
- Coastal infrastructure
- Commercial shipping (operation)
- Electricity from renewable energy sources
- Fishing
- Oil, gas and carbon capture storage
- Ports and harbours (construction, maintenance and operation)
- Recreation

## 4.3 Use of Mitigation Measures, Court Judgements and their consideration in this Report

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### **CJEU People Over Wind v Coillte Teoranta C-323/17**

- 4.3.1 As previously mentioned, in line with the Court judgement (CJEU People Over Wind v Coillte Teoranta C-323/17), mitigation measures cannot be taken into account when carrying out a screening assessment to decide whether a plan or project is likely to result in significant effects on a Habitats site. This HRA Appropriate Assessment therefore considers mitigation measures for the assessment of Likely Significant Effects resulting from the Castle Point Plan.
- 4.3.2 In accordance with this Judgement, all mitigation measures already built into the Local Plan can now be taken into account within the Appropriate Assessment. At this stage other policies of the Plan can be considered in order to mitigate some of the potential Likely Significant Effects which have been identified. This stage is an iterative process as avoidance and reduction measures can be incorporated in order to be able to avoid the potential impacts identified in the Appropriate Assessment or reduce them to a level where they will no longer adversely affect the site's integrity.
- 4.3.3 An example may include a requirement for Sustainable Drainage Schemes (SuDS) for new housing and employment sites which can help to mitigate for surface water flooding and prevent water pollution.
- 4.3.4 Where there may still be adverse effects on the ecological integrity of Habitats sites, in view of its conservation objectives, additional mitigation measures may also need to be proposed. Generic mitigation is used where possible. This should help to address water quality, air pollution, noise, and other (non-recreational) forms of disturbance. Construction



Environment Management Plans (CEMP - Biodiversity) – often a condition of planning consent for development - can help to direct seasonal working, damping down of dust and measures to alleviate noise pollution.

- 4.3.5 Reduction in the scale of the potentially damaging provision by mitigation measures may reduce the potential effects on a Habitats site, but they may still require the residual effects to be assessed in combination. This may or may not allow the Castle Point Plan to pass the integrity test. All the necessary measures need to be incorporated into the Plan before the integrity test can be applied.

### **CJEU Holohan C- 461/17**

- 4.3.6 Court rulings include CJEU Holohan C-461/17 (7 November 2018) which imposes more detailed requirements on the competent authority at Appropriate Assessment stage:

*1. [...] 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.*

*2. [...] the competent authority is permitted to grant to a plan or project consent which leaves the developer free to determine subsequently certain parameters relating to the construction phase, such as the location of the construction compound and haul routes, only if that authority is certain that the development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.*

*3. [...] where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'Appropriate Assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned.*

- 4.3.7 It is therefore necessary to consider species likely to be present on the Habitats sites, but for which that site has not been listed – e.g. birds which are designated features of the underpinning SSSI – and to consider 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. Those species found outside the European designated site boundary are likely to be covered by the consideration of impacts on functionally linked land.



## **CJEU Joined Cases C-293/17 and C-294/17 Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu**

4.3.8 These Dutch cases concerned authorisations schemes for agricultural activities in Habitats sites which cause nitrogen deposition and where levels already exceeded the critical load. These are not directly connected with or necessary for the management of a Habitats site and “highlights” of the ruling include:

1. *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 the grazing of cattle and the application of fertilisers on the surface of land or below its surface in the vicinity of Natura 2000 sites may be classified as a ‘project’ within the meaning of that provision, even if those activities, in so far as they are not a physical intervention in the natural surroundings, do not constitute a ‘project’ within the meaning of Article 1(2)(a) of Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment.*

2. *Article 6(3) of Directive 92/43 must be interpreted as meaning that a recurring activity, such as the application of fertilisers on the surface of land or below its surface, authorised under national law before the entry into force of that directive, may be regarded as one and the same project for the purposes of that provision, exempted from a new authorisation procedure, in so far as it constitutes a single operation characterised by a common purpose, continuity and, inter alia, the location and the conditions in which it is carried out being the same. If a single project was authorised before the system of protection laid down by that provision became applicable to the site in question, the carrying out of that project may nevertheless fall within the scope of Article 6(2) of that directive.*

...

6. *Article 6(3) of Directive 92/43 must be interpreted as meaning that an ‘appropriate assessment’ within the meaning of that provision may not take into account the existence of ‘conservation measures’ within the meaning of paragraph 1 of that article, ‘preventive measures’ within the meaning of paragraph 2 of that article, measures specifically adopted for a programme such as that at issue in the main proceedings or ‘autonomous’ measures, in so far as those measures are not part of that programme, if the expected benefits of those measures are not certain at the time of that assessment.*

7. *Article 6(3) of Directive 92/43 must be interpreted as meaning that measures introduced by national legislation, such as that at issue in the main proceedings, including procedures for the surveillance and monitoring of farms whose activities cause nitrogen deposition and the possibility of imposing penalties, up to and including the closure of those farms, are sufficient for the purposes of complying.*



4.3.9 This ruling is relevant to projects which trigger appropriate assessment before any consents are issued so should be considered when identifying other plans and projects for an in- combination assessment.

#### **(R (on the Application of Preston) v Cumbria County Council [2019] EWCA 1362)**

4.3.10 This case relates to a High Court verdict which quashed a County Council's decision to vary a planning permission for a water company to construct a sewage outfall on a Special Area of Conservation (SAC). Therefore, planning authorities and other competent authorities cannot, in appropriate assessments, simply rely on the competence of other regulators to avoid conducting their own assessments. They must instead themselves satisfy their own HRA duties. The judgement concluded:

*Regulation 63(1) provides that the trigger for making an appropriate assessment is that the relevant plan or project 'is likely to have a significant effect on a European site.*

*Regulation 63(3) envisages consultation with the appropriate nature conservation body taking place at the stage of the appropriate assessment and accordingly after the initial view that there is likely to be significant effect has been formed. The conclusion as to whether the integrity of the relevant site will be adversely affected is to be made 'in the light of the conclusions of the assessment'*

*(Regulation 63(5)) and it is at that stage that regard is to be had to the manner in which the project is to be carried out and to the conditions or restrictions which the authority is minded to impose.*

*(Regulation 63(6)) The effect of restrictions imposed by another regulatory body is seen as an aspect of the manner in which a project is to be carried out and so falling for consideration under Regulation 63(6) at the end of the assessment process rather than as removing the need for an appropriate assessment.*

## **4.4 Applying the Integrity Test**

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4.4.1 Following the Appropriate Assessment and the consideration of all mitigation measures, the competent authority needs to make a judgement on whether any of the policies will have an Adverse Effect on Integrity on any Habitats site, either alone or in combination with other plans and projects. This are set out in Chapter 5. This test incorporates the precautionary principle.

## **4.5 In Combination Effects with other Plans and Projects**

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4.5.1 The key purpose of the in-combination assessment is to ensure no significant cumulative adverse effects on a site. A series of individually modest impacts may, in combination,



produce a significant impact. Cumulative impacts may only occur over time, so plans or projects which are completed, approved but uncompleted, or proposed should all be considered. They can include proposals in adopted plans. The assessment should not be restricted to similar types of plans and projects.

- 4.5.2 In combination effects are addressed only where necessary and after the effects alone have already been considered. In most cases, operational plans and projects are taken into account as part of the local characteristics and specific environmental conditions (i.e. baseline). The in-combination assessment therefore includes 'other plans and projects' which are not already exerting an influence over the baseline conditions at the Habitats site, or which were not taken into account as part of the assessment alone. In practice, the baseline and the 'other plans and projects' may continually change over time.
- 4.5.3 In combination provisions must be interpreted in a proportionate manner and should be practically feasible. There must be a degree of flexibility in an in-combination assessment and the competent authority is entitled to exercise judgment over which other plans and projects to take into account (Walton). Consequently, the focus should be on the most influential plans and projects and where the effects are most likely to represent risk to adverse effects on integrity. The scope of the assessment is limited by the information that is realistically available at the time, and this may change over the course of the Plan's stages of development.
- 4.5.4 An example of a strategic approach to address in combination effects is the implementation of the Essex Coast RAMS<sup>13</sup> (cross-boundary mitigation of effects on Habitats sites) which provides strategic mitigation measures for all new housing developments within the Zone of Influence for recreational disturbance, designed to avoid effects in combination with other plans and projects. This is necessary as it cannot be concluded that no new residents will visit the Habitats sites, so residual effects arising from developments- including single dwellings- cannot be scoped out.
- 4.5.5 Where there are no effects, there is no basis to carry out an assessment of in-combination effects (Foster and Langton).

## 4.6 Embedding Mitigation into the Castle Point Plan

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- 4.6.1 Castle Point Borough Council, as the competent authority, should consider the manner in which the Castle Point Plan is to be implemented and any mitigation measures which could be relied upon when deciding whether it would have an Adverse Effect on Integrity, including when and how they can be embedded into the Plan. It needs to ensure that mitigation is embedded into the Plan through amendments to policies where necessary. It

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<sup>13</sup> 1 Essex Coast RAMS (Place Services 2018)



is not sufficient to rely solely on a general policy aimed at protecting Habitats sites. Instead, explicit caveats need to be included where there may be conflicts between a general policy to protect Habitats sites from development and another policy.

- 4.6.2 For every policy and Allocated Site screened in, each potential impact pathway scoped in is assessed, and any additional mitigation measures required to avoid Adverse Effect On site Integrity (AEOI) are set out. These should embed the mitigation into the Castle Point Plan
- 4.6.3 A number of proposals to embed mitigation measures within the Plan's policies and Reasoned Justifications were made and these have been incorporated.

## 4.7 Re-applying the Integrity Test

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- 4.7.1 At this stage the integrity test should be re-applied. Where there may still be adverse effects on the ecological integrity of Habitats sites, in view of the Site's conservation objectives, additional mitigation measures should be considered.
- 4.7.2 This AA provides a table for each potential impact pathway where it considers individual policies, how they might be mitigated and whether embedded mitigation is sufficient to avoid Adverse Effect On site Integrity.

## 4.8 Monitoring

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- 4.8.1 Once advice has been obtained from Natural England, recommendations for any monitoring, e.g. early warning or validation monitoring, may be proposed for some potential impacts. This may enable a proposal to be facilitated and may allow the plan-making body to monitor the effectiveness of mitigation measures and perhaps to tailor them in the future. Early warning monitoring is useful as it can allow a plan to be adopted where the monitoring is part of a suite of appropriate follow-up measures.
- 4.8.2 A monitoring and Iterative Plan Review (IPR) provision may need to be embedded in the Castle Point Plan. Monitoring is not mitigation; however, where there is a lack of detail over the precise effects of a plan (because, as in this case, the purpose of the plan is to set over-arching policy, not present specific proposals), an Iterative Plan Review process enables the delivery of development to be managed and the plan (and its HRA) to be updated in future reviews. It involves recognising the fact that development associated with policies in the plan will not be delivered all at once but piecemeal over the entire plan timetable. This process will involve a phased and iterative approach to plan-implementation which is linked to ongoing project developments and their associated monitoring work and with the findings from such project-level work feeding back into the next phases of plan-implementation. This is done so that results from monitoring data from consented projects and on-going



research programmes can be fed into subsequent developments in order for lessons to be learnt and evidence gaps filled, thus reducing potential impacts to Habitats sites.

## 4.9 Consulting Natural England

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- 4.9.1 Natural England is the Statutory Nature Conservation Body and so must be formally consulted on the HRA and its comments must be taken into account.
- 4.9.2 Natural England will be informally and formally re-consulted on the Castle Point Plan during the public consultation process for Regulation 19.





## 5. Undertaking the Appropriate Assessment

### 5.1 Summary of the Screening Assessment

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- 5.1.1 The Screening Assessment identified 57 policies and Site Allocations of the Castle Point Plan Regulation 19 needing to be taken forward to the Appropriate Assessment stage. These are listed in the HRA Screening stage above (Chapter 3).
- 5.1.2 As identified at the HRA Screening stage above (Chapter 3), the Habitats sites which could have a Likely Significant Effect (without considering mitigation) are:
- Benfleet and Southend Marshes SPA and Ramsar site
  - Blackwater Estuary SPA and Ramsar site
  - Foulness SPA and Ramsar site
  - Dengie SPA and Ramsar site
  - Crouch and Roach SPA and Ramsar site
  - Essex Estuaries SAC
  - Thames Estuary and Marshes SPA and Ramsar site
- 5.1.3 Potential effects listed for the above Habitats sites could not be ruled out and all of the following pathways are scoped in require further consideration:
- Land take - Direct or indirect impacts to a Habitats site causing habitat loss, degradation or fragmentation.
  - Impacts on protected species outside the designated site - e.g. loss of functionally linked land (outside Habitats sites). The impact on site features (species) which travel outside the protected sites may be relevant where a development could result in effects on qualifying interest species within the Habitats sites, for example through the loss of feeding grounds for an identified species.
  - Disturbance - Increase of any type of disturbance from construction and operation phases, such as those arising from dust, noise and lights, as well as from increased recreational disturbance during operation phases.
  - Water quality - Changes in water quality to water-dependent Habitats sites e.g. nutrient increases
  - Water quantity - Changes in surface or ground water availability from increased surface runoff or increased groundwater extraction.





- Air quality - Changes in localised atmospheric pollution levels from vehicle emissions.

- 5.1.4 These impact pathways are considered in more detail below. Mitigation embedded into the Plan can now be taken into account to determine whether there may be any adverse impacts on site integrity resulting from the Local Plan. Furthermore, additional measures are proposed where considered necessary.
- 5.1.5 The coastal habitats, particularly of Holehaven Creek, are considered to be Functionally Linked Land for the Thames Estuary and Marshes Special Protection Area and Ramsar site. Therefore, this land has been included as having the potential to be affected as a result of Local Plan policies.
- 5.1.6 The Qualifying Features, Conservation Objectives and Key Vulnerabilities / Factors Affecting Site Integrity of the Benfleet and Southend Marshes SPA and Thames Estuary and Marshes SPA have been set out in Appendix 2 of this report.
- 5.1.7 The Advice from Natural England on 18th September 2024 in relation to the Issues and Options report has been set out above in the Screening sections.

## 5.2 Land Take

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- 5.2.1 This section of the report considers the potential for adverse effects to the site integrity of Habitats sites through Land Take as a result of proposed policies and Site Allocations.
- 5.2.2 As identified at the HRA Screening stage above (Chapter 3), the only Habitats sites scoped in and located within the Castle Point Borough boundary are Benfleet and Southend Marshes SPA and Ramsar. These are, therefore, potentially the sites that are most likely to be directly damaged or fragmented as a result of the Local Plan. These sites are within the same Site Improvement Plan for the Greater Thames Complex. The Habitats sites in scope which might be affected by impacts from Land Take resulting from the Local Plan are considered below.
- 5.2.3 The only policy screened in (for habitat damage, loss and fragmentation / land take) is Policy SD1 - Tidal Flood Risk Management.
- 5.2.4 The HRA Screening stage could not rule out the potential for Likely Significant Effects through the proposed coastal flooding of Hadleigh Marshes (part of Benfleet and Southend Marshes SPA and Ramsar site) to provide compensation for the loss of intertidal habitat as a result of retaining and enhancing the sea walls at Canvey Island resulting in the loss of the non-tidal Grazing Marsh for which the site is designated. This is summarised in Table 16 below:



**Table 16: Habitats sites in scope which could be affected by Land Take resulting from the Plan**

| Policy/ Site Allocation screened in for issues relating to land take | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| Policy SD1 - Tidal Flood Risk Management                             | ✓  | ✓   | ✓   |

5.2.5 Coastal and non-coastal flood risk is dealt with through a variety of organisations and plans which are separate from the Castle Point Plan. These include the Strategic Flood Risk Assessment 2024; Catchment Flood Management Plan (prepared by the Environment Agency (EA)); Shoreline Management Plans (EA and coastal planning authorities); River Basin Flood Risk Management Plan (EA) and Local Flood Risk Management Strategies (Essex County Council).

5.2.6 In the context of this HRA, Land Take is considered to be any area of loss with a Habitats site, even if the land is covered by water, including tidal waters. It should be borne in mind that Castle Point Borough Council has no responsibility for consenting development in the tidal area. The South East Inshore Marine Plan is also relevant here and consents from the Marine Management Organisation are required for any development which affects the seaward side of the defences.

#### Brent Geese

5.2.7 The target for the supporting habitat: extent, distribution and availability of supporting habitat for the non-breeding season is to restore the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding).

5.2.8 The Thames Estuary 2100 Plan sets out a vision for the future of the Thames estuary with specific actions and policies in relation to the management of flood risk in and around the Thames Estuary. It includes three separate flood risk policy units for Canvey Island, Hadleigh Marshes and Bowers Marshes.

5.2.9 The Thames Estuary 2100 Plan introduces the riverside strategy approach. This approach integrates upgrades to flood defences with riverside improvements and wider benefits. It aims for a joined up approach between tidal and non tidal flooding (e.g. surface water, fluvial and waste water). Local authorities are expected to adopt the riverside strategy



approach and are expected to embed Thames Estuary 2100 requirements into planning policy. This is supported in the Local Plan by Policy ENV2: Coastal & Riverside Strategy.

5.2.10 The Environment Agency aims to implement the Thames Habitat Creation Programme. Actions include the creation of compensatory habitat as required under the Habitats Regulations for the loss of inter-tidal and grazing marsh habitats as a result of coastal squeeze. This will implement actions arising from Shoreline Management Plans and the Thames Estuary 2100 Plan (TE2100)<sup>14</sup>. The Environment Agency's National Review of Statutory Habitat Compensation Associated with Flood and Coastal Risk Management Activity Progress Report (January 2018)<sup>15</sup> sets out what is understood to be the most up to date view. By 2026, the Environment Agency will update projections for designated sites lost through coastal squeeze.

5.2.11 Hadleigh Marshes Policy Unit<sup>16</sup> comprises terrestrial Grazing Marsh. The western part of contains Benfleet and Southend Marshes Special Protection Area (SPA) and the policy unit is adjacent to extensive areas of designated intertidal habitat. The types of flooding that could affect it are identified as:

- tidal flooding – when the tide overtops flood defences
- fluvial flooding from local watercourses including the drainage systems on Hadleigh Marshes – when heavy rainfall causes the ditches to flow onto the marsh
- a combination of these

5.2.12 Flood defences are to be maintained “at their current level, accepting that the flood risk will increase”. The plans to allow flooding to Hadleigh Marshes -by not raising sea defences- are part of the long-term flood alleviation scheme, as part of the Thames Estuary 2100 Plan's compensatory habitat plans. The Castle Point Plan Policy SD1 supports the approach of the Thames Estuary 2100 Plan.

5.2.13 Two Tree Island immediately southeast of the policy unit has flood defences to prevent contaminated material that may cause environmental damage if it is able to leach out into the river and adjoining intertidal habitats.

5.2.14 With respect the Canvey Island Policy Unit<sup>17</sup>, the types of flooding are identified as:

- tidal flooding from the Thames including Benfleet, Holehaven and East Haven Creeks – when the tide overtops flood defences

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<sup>14</sup> [Thames Estuary 2100 \(TE2100\) - GOV.UK](#)

<sup>15</sup> Environment Agency- National Review of Statutory Habitat Compensation Associated with Flood and Coastal Risk Management Activity Progress Report (January 2018) can be found at: [Document template: green report](#)

<sup>16</sup> Hadleigh Marshes policy unit can be viewed at: <https://www.gov.uk/guidance/hadleigh-marshes-policy-unit-thames-estuary-2100>

<sup>17</sup> Canvey Island Policy Unit can be viewed at: [Canvey Island Policy Unit: Thames Estuary 2100 - GOV.UK](#)



- surface water flooding – when heavy rainfall is unable to drain away
- a combination of these

5.2.15 As there are substantial communities and a risk of flooding without adequate sea defences on Canvey Island, the TE2100 sets out a policy of maintaining and enhancing the existing defences in order to respond to the implications of climate change. This is supported by the Castle Point Plan through Policy SD1. Flood risks are listed as:

- tidal defences on the Thames frontage, Benfleet and Holehaven Creeks
- barriers at East Haven and Benfleet to control tidal water levels on East Haven Creek
- secondary tidal defences
- an extensive drainage system for the developed area with open channels integrated with the public surface water sewer network as well as pumped and gravity outfalls”

5.2.16 Sea walls result in ‘coastal squeeze’, where the inter-tidal habitat next to the sea walls is lost due to rising sea levels against the fixed line of sea defences.

5.2.17 Furthermore, any future additional defence works to the sea wall could potentially directly destroy adjacent habitat (as well other cause other adverse effects such as water and air pollution and disturbance during construction works).

5.2.18 A Habitats Regulations Assessment for the TE2100 was conducted in 2009. The TE2100 Plan recommendations for Hadleigh Marshes were assessed for their Adverse Effect on Integrity and this needed to go to the Stage 3 HRA i.e. Imperative Reasons of Overriding Public Interest. This has triggered the need for compensation of loss of saltmarsh habitat through ‘coastal squeeze’ around the Thames estuary, which included land outside Castle Point’s boundaries. As terrestrial habitat of the Benfleet and Southend Marshes SPA and Ramsar would be destroyed in the process of providing the compensatory intertidal habitat, this itself will trigger the need for further compensation elsewhere to maintain the integrity of the national site network.

5.2.19 The TE2100 Plan has since been updated, and advises that, “As the flood risk management policies remain the same, the impacts on habitat have not changed and we have not updated the HRA as part of this review.”

5.2.20 As the Castle Point Plan supports this through Policy SD1 it is therefore considered in this Appropriate Assessment.



5.2.21 The Canvey Island Southern Shoreline project is currently ongoing. The Environmental Assessment Report<sup>18</sup> advises that the HRA for this project concluded that there will be a loss of approximately 660m<sup>2</sup> of designated habitat due to the shallower slope of the new revetment, which represents 0.0029% of the SPA. As this habitat was recorded to be poorly utilised and low quality to qualifying interests, and at risk from disturbance from the adjacent urban area, it therefore was considered to have no adverse effect on the site integrity of the Benfleet and Southend Marshes SPA or Ramsar site.

5.2.22 The Designated Sites website provides the following information for Benfleet and Southend Marshes SPA<sup>19</sup>:

*Much of the site is below national sea level ([Environment Agency and WFD, 2012](#)) and it is made up of several intertidal, subtidal and terrestrial habitat types that birds rely upon for loafing, roosting and foraging. In many locations the presence of a seawall separates the terrestrial parts of the site (such as freshwater and coastal grazing marsh) from the intertidal and marine zones (mixed and coarse sediments, saltmarsh, sand and mud flats, shell banks and seagrass beds).*

*Due to the high flood risk in the Thames Estuary basin as a result of sea-level rise and erosion ([Environment Agency and WFD, 2012](#)), coastal squeeze and intertidal habitat loss is a concern within this site. Most of the intertidal habitat is muddy in character, with extensive areas of saltmarsh and saltmarsh basins, inlets, seagrass beds and lagoons in the low-lying areas. The significant saltmarsh roost areas at Two Tree and Canvey Point in the SPA are considered to be in unfavourable condition when assessed through its component SSSI units; the remaining inner creek saltmarsh has experienced no deterioration or improvement in unfavourable condition, and is generally considered to be recovering ([Natural England \(NE\), 2011](#)).*

*Extensive condition improvements have taken place on the adjacent grassland SPA and SSSI habitats ([Fuller, 2015 Pers Comm](#)) ([Natural England \(NE\), 2011](#)). The SPA grassland is mostly coastal grazing marsh with ditches, and includes the sea wall with borrowdykes, which collectively provide supporting habitat for overwintering waterfowl. The whole area, including the adjoining SSSI grassland downs, supports notable botanical and invertebrate assemblages characteristic of the Thames terrace and marshes ([Essex County Council, 2012](#)).*

5.2.23 Coastal squeeze has been identified in the Greater Thames Complex Site Improvement Plan (SIP)<sup>20</sup> as a pressure for the following features:

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<sup>18</sup> Canvey Island Southern Shoreline Project Environmental Assessment Report can be found at: [Report Template Standard Para](#)

<sup>19</sup> [Marine site detail](#)

<sup>20</sup> The SIP can be viewed at: [Site Improvement Plan: Greater Thames Complex - SIP134](#)



- Non-breeding: Dark-bellied Brent Goose, Common shelduck, Pintail, Shoveler, Avocet, Hen Harrier, Ringed Plover, Golden Plover, Grey Plover, A143(NB) Red knot, A149(NB) Dunlin, A156(NB) Black-tailed Godwit, Bar-tailed Godwit, Common redshank.
- Breeding: Marsh Harrier Avocet, Mediterranean Gull, Little Tern, Breeding bird assemblage.
- Waterbird assemblage

5.2.24 Ringed Plovers are in an 'unfavourable no change condition', whilst the other species are assessed as 'favourable'. Ringed plovers at this site feed on invertebrates found on the sandflats, mudflats and saltmarshes of Southend Seafront, and to a lesser extent those at Benfleet Creek and Hadleigh Ray (Holt et al., 2015).

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

5.2.26 The Advice on Operations<sup>21</sup> identifies a number of pressures that may result from the coastal development and flood and erosion risk management schemes (operation) to qualifying species and habitats including: barrier to species movement, emergence regime changes, including tidal level change considerations water flow (tidal current) changes, including sediment transport considerations wave exposure changes.

5.2.27 For coastal development and flood and erosion risk management schemes (construction and maintenance) on five qualifying species of bird and 11 supporting habitats. Many pressures are listed, but they include: Above water noise; Abrasion/disturbance of the substrate on the surface of the seabed; Physical change (to another sediment type); Water flow (tidal current) changes, including sediment transport considerations; and collision above water with static or moving objects not naturally found in the marine environment (e.g., boats, machinery, and structures).

5.2.28 "The pressure relates to the vibration produced by certain activities and does not include vessels as they are assumed not to be significant. Activities resulting in vibration are for example trenching for cable laying, dredging as the draghead is carried over the seabed or grab is operated; ...and activities involving piling (especially if vibro-piling is used)." ... "The risk of this pressure will increase depending on the spatial/ temporal scale and intensity of the activity, the proximity of the activity to the feature (in space and time) and the sensitivity

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<sup>21</sup> [Designated Sites View](#)





of the feature to the pressure. Cumulative and in-combination effects of activities may increase the risk further.”

## **Policies / Allocations screened in and Habitats Sites within Scope**

- 5.2.29 Policy SD1: Tidal Flood Risk Management and ENV2: Coastal & Riverside Strategy provide support for the Thames 2100 Plan (TE2100). SD1 caters for improving nature conservation in the Hadleigh Marshes area, with a long-term view of securing appropriate compensatory sites within the Thames Estuary for any loss of designated habitats.
- 5.2.30 In addition, Policy SD1 seeks to ensure that the existing sea walls are retained, protected and strengthened where necessary for flood defence, to protect current and future development on Canvey Island. A 19m wide buffer of land adjacent to the existing flood defences on Canvey Island, as is safeguarded for future flood defence works. The areas allocated for new development must not contain any permanent built structures within the areas allocated for this purpose inside the sea wall, as is recognised by the Local Plan. Additional development is proposed by the Local Plan on Canvey Island through its housing and employment policies and supporting infrastructure. It is anticipated that the strengthening of sea defences to protect existing housing and businesses within the existing sea wall would be required, irrespective of any new developments. Future flood defence works could also adversely affect the margins of Benfleet and Southend Marshes SPA and Ramsar site where they meet the sea walls.
- 5.2.31 This approach has therefore not been initiated by the Castle Point Plan, but it is supported by it, as a key partner.
- 5.2.32 Policy SD1 supports a buffer on the landward to the sea wall which will enable the works to be restricted to the landward side of the sea wall. Any land on the seaward side is required through a different consent mechanism not under the remit of the Castle Point Plan or Castle Point Borough Council.
- 5.2.33 Therefore, there it is anticipated that there would be no land take resulting from the construction process of the sea walls relating to the Local Plan.

## **Use of Mitigation Measures**

### **Policy SD1 - Tidal Flood Risk Management**

- 5.2.34 The Hadleigh Marshes compensation project is embedded in the Castle Point Plan through Policy SD1 - Tidal Flood Risk Management in order to reflect and support the aspirations of the TE2100 Plan.
- 5.2.35 The Plan – and in particular Policy SD1 –also requires that any land take for the works to strengthen the sea wall will be on the landward side of the sea wall.



- 5.2.36 The issues surrounding the need to balance flood defence with the protection of Habitats sites within the Thames Estuary have already been assessed and will be managed through the HRA process for the TE2100 Plan. The need to retain and enhance the sea wall on Canvey Island is embedded in the Local Plan through Policy SD1 in order to reflect and support the aspirations of the TE2100 Plan, as well as to preserve the lives of the existing and prospective inhabitants and visitors of Canvey Island in the event of a coastal flood.
- 5.2.37 The Habitats Regulations Assessment for the Thames Estuary 2100 Plan needed to go to the next HRA stage, i.e. Imperative Reasons of Overriding Public Interest. It recognised that the requirement to retain the seawall on Canvey Island will result in the loss of coastal habitat. It therefore triggered the need for compensation of loss of intertidal habitat through 'coastal squeeze'. Consequently, it proposes to create new areas of compensatory intertidal habitat elsewhere. As this provides compensation -rather than mitigation – it cannot be taken into account at this stage of a Habitats Regulations Assessment.
- 5.2.38 Policy SD1 does not specifically refer to the need to avoid Adverse Effects on Site Integrity (AEOI), but this is acceptable because coastal squeeze requires *compensation*, rather than *mitigation*.
- 5.2.39 Impacts from coastal squeeze and impacts to Hadleigh Marshes are dealt with by the Stage 3 HRA for the Thames 2100 Plan and associated strategies and projects. Therefore, given the long-term nature and the need to consider the functional estuary as a whole (beyond the boundaries of Castle Point Borough), there is no need to duplicate the process within this document.
- 5.2.40 A plan-level HRA should be required for the Coastal & Riverside Strategy (Policy ENV2).
- 5.2.41 Any proposals which may affect Hadleigh Marshes should be subject to a project-level HRA. In order to support the TE2100 Plan and safeguard Habitats sites the HRA has recommended that this should be highlighted in the Reasoned Justification for SD1; this has been included.
- 5.2.42 Any works to retain or enhance sea walls, or in the 19-metre safeguard buffer zone, should avoid causing adverse effect on site integrity. The HRA has recommended that this will need to be demonstrated through a project-level HRA; this has been included.
- 5.2.43 The mitigation measures are summarised in Table 17 below. This Table considers the mitigation that is already embedded in the Castle Point Plan with respect to Land Take.
- 5.2.44 The third column ('additional measures needed to avoid Adverse Effects on Site Integrity') highlights that a project-level Habitats Regulations Assessment will be required for any related application stage.
- 5.2.45 ENV3: Securing Nature Recovery and Biodiversity Net Gain provides a general positive embedded mitigation measure.



**Table 17: Policies and Site Allocations which could adversely affect Habitats sites through Land Take**

| Policy/ Site Allocation within scope for issues relating to Land Take | Assessment of embedded mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
| Policy SD1 - Tidal Flood Risk Management                              | <p>The Plan supports the compensation required for coastal squeeze and loss of terrestrial habitat at Benfleet and Southend Marshes SPA from TE2100 Plan. This driven by the latter and details will be developed further through the Coastal &amp; Riverside Strategy (see Policy ENV2).</p> <p>The Reasoned Justification has been strengthened to explicitly state that the integrity of Habitats sites not be adversely affected. It now states: “Any development within Hadleigh Marshes should avoid causing adverse effects on sites’ integrity or compensation will be required if imperative reasons of overriding public interest are agreed by the Secretary of State at application stage. This will need to be demonstrated through a project level Habitats Regulations Assessment.”</p> <p>and</p> <p>“Any works to retain or enhance sea walls, or within the 19m safeguarded buffer zone, should avoid causing</p> | None.   |



| <b>Policy/ Site Allocation within scope for issues relating to Land Take</b> | <b>Assessment of embedded mitigation</b>   | <b>Additional measures needed to avoid Adverse Effects on Site Integrity</b> |
|--|--|--|
|  | adverse effects on site integrity. This will need to be demonstrated through a project level HRA.” |  |



## Re-applying the Integrity Test

5.2.46 The Castle Point Plan has incorporated the recommendations of this HRA

5.2.47 Through the TE2100 Plan, it is already recognised, that there will be a requirement to provide compensation for loss of land with Benfleet and Southend Marshes SPA and Ramsar site. This is as a direct result of retaining and enhancing flood defences for Canvey Island and not enhancing them at Benfleet Marshes.

## 5.3 Impacts upon Qualifying species outside the designated site

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- 5.3.1 This section of the report considers the potential for adverse effects to the site integrity of Habitats sites through loss of Functionally Linked Land as a result of proposed policies and site allocations.
- 5.3.2 As explored in Chapter 2, Functionally Linked Land (FLL) supports designated features of Habitats sites, where the habitat contributes towards maintaining the interest feature for which the Habitats site is designated, for example through the loss of feeding grounds for an identified species.
- 5.3.3 There are several policies carried forward to Appropriate Assessment because the HRA Screening stage could not rule out the potential for Likely Significant Effects through the loss of Functionally Linked Land without further investigation and consideration of mitigation.
- 5.3.4 These are set out in the Screening section, summarised in the table below, and in and Appendix 1.



**Table 18: Habitats sites in scope which could be affected by the Local Plan from qualifying species using Functionally Linked Land**

| Policy/ Site Allocation within scope for issues relating to FLL | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats sites, depending on location of proposals |
|---|--|---|---|
| Policy SP3 - Meeting Development Needs                          | ✓  | ✓   | Yes   |
| Policy C3 - Canvey Port Facilities                              | ✓  | ✓   | Yes   |
| Policy C4 West Canvey   |  | ✓   | Yes   |
| Policy C5- Improved Access to and around Canvey Island          | ✓  | ✓   | Yes   |
| Policy C6 - The South Canvey Green Lung                         | ✓  | ✓   | Yes   |
| Policy C8 Residential Park Home Sites, Canvey Island            | ✓  | ✓   | Yes   |
| Policy Hou4 – Specialist Housing Requirements                   | ✓  | ✓   | Yes   |
| Policy Hou5 - Park Homes  | ✓  | ✓   | Yes   |
| Policy Hou6 - Gypsy and Traveller Provision                     | ✓  | ✓   | Yes   |
| Policy E1- Development on Strategic Employment Land             | ✓  | ✓   | Yes   |



| Policy/ Site Allocation within scope for issues relating to FLL          | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats sites, depending on location of proposals |
|--|--|---|---|
| Policy TC3 - Retail Parks and Out of Centre Locations                    |  | ✓   | Yes   |
| Policy GB1 – Development affecting the Green Belt                        | ✓  | ✓   | Yes   |
| Policy GB2 – Previously Developed Land in the Green Belt                 | ✓  | ✓   | Yes   |
| Policy ENV2 – Coastal & Riverside Strategy                               | ✓  | ✓   | Yes   |
| Policy Infra4 – Open Spaces  | ✓  | ✓   | Yes   |
| Policy Infra6 - Communications Infrastructure                            | ✓  | ✓   | Yes   |
| Policy T1 - Transport Strategy   | ✓  | ✓   | Yes   |
| Policy T2 - Highway Improvements   | ✓  | ✓   | Yes   |
| Policy T3 - Active Travel Improvements                                   | ✓  | ✓   | Yes   |
| Policy T4 - Improvements to Public Transport Infrastructure and Services | ✓  | ✓   | Yes   |
| Policy SD1 - Tidal Flood Risk Management                                 | ✓  | ✓   | Yes   |



- 5.3.5 There may be an impact on qualifying features (i.e. species) which travel outside the Habitats sites and consequently the Local Plan could result in effects on qualifying interest species within the Habitats sites, for example through the loss of areas used for feeding, roosting, foraging and loafing, especially large fields comprising arable and pastoral land uses and coastal habitats. For example, Hen Harrier, Brent Geese, Lapwing and Golden Plover. Natural England has previously advised that the recognised foraging distance threshold for the majority of wetland bird (excluding Lapwing and Golden Plover) species is 2km from a designated site. Lapwing and Golden Plover can be found considerably further inland from the coastal sites. Dark-bellied Brent Geese spend the winter in estuaries and shallow coasts with mudflats; they also graze on fields near the coast and therefore are a key species to consider with respect to use of land outside of the SPA and Ramsar site.
- 5.3.6 The low-lying land on Canvey Island, Hadleigh Marshes and South Benfleet provides the most likely habitat opportunities for the mobile qualifying features, particularly waders and wildfowl. Much of this land comprises creeks and mudflats, Saltmarsh, Grazing Marsh and rough grassland and is mostly designated as SSSI or Local Wildlife Site (LoWS), some of which is managed by the RSPB. These Local Wildlife Sites may also provide land which would support the qualifying features.
- 5.3.7 This includes West Canvey Marshes LoWS which is a very extensive area of grazing-marsh, ditches, scattered scrub and inter-tidal habitats. It also includes Canvey Wick SSSI is designated for its herb-rich grassland, early successional habitat and scrub edge, and brackish (coastal wetland) habitats. Canvey Village Marsh LoWS comprises the remains of an old grazing marsh system. There are a number of others including Bowers Marshes, Benfleet Creek and Seawall, Brick House Farm Marsh, Benfleet Sewage Works and Benfleet Marsh.
- 5.3.8 Coastal wetland birds of the Thames Estuary are known to move between Essex and Kent twice a day to follow the tide (Harvey pers. com.), it is feasible that birds would move between Holehaven Creek SSSI, as potentially Functionally Linked Land, and the South Thames Estuary and Marshes SSSI component of Thames Estuary and Marshes SPA and Ramsar site.
- 5.3.9 Black-tailed Godwit (*Limosa limosa islandica*) (Non-breeding) is a qualifying feature of Thames Estuary and Marshes Special Protection Area. The species winters in sheltered estuaries, with the large intertidal mudflats, brackish habitats, beaches and saltmarshes that these areas provide<sup>22</sup>. Black-tailed Godwit associated with the site are also known to use habitat outside of the SPA boundary, for example within Holehaven Creek SSSI. The citation for Holehaven Creek Site of Special Scientific Interest – which includes the connecting Vange Creek and East Haven Creek- states that the reason for the notification

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<sup>22</sup> [Designated Sites View](#)



is that Holehaven Creek regularly supports nationally important numbers of wintering Black-tailed Godwit which also regularly occurs in numbers of international importance.

- 5.3.10 These species use the large areas of saltmarsh and intertidal mudflats within Holehaven Creek to forage and roost with minimal levels of disturbance. Holehaven Creek is particularly valuable during the winter in periods of adverse weather, when it provides foraging and resting grounds in more sheltered conditions than many of the surrounding areas. Holehaven Creek is therefore considered to act as 'Functionally-Linked Land' for the Thames Estuary and Marshes Special Protection Area and Ramsar site.
- 5.3.11 This is supported by Natural England in its response to the Regulation 18 consultation who advised that "Impacts on protected species outside the designated site (loss of Functionally Linked Land Note that Holehaven Creek SSSI, which is located partially within Castle Point District, is linked geographically and functionally with the wider Thames Estuary. The intertidal mudflats and saltmarsh habitats of Holehaven Creek support a nationally important number of Black-tailed godwit (*Limosa limosa islandica*). This species also regularly occurs in numbers of international importance. This may require consideration of the potential of FLL at distances greater than 2km from formally designated SPAs."
- 5.3.12 With respect to the Waterbird assemblage, the citation for Thames Estuary and Marshes Special Protection Area lists the following assemblage species as regularly occurring on the site in non-qualifying numbers:
- 5.3.13 Passage and wintering Bewick's Swan *Cygnus columbianus bewickii*, Golden Plover *Pluvialis apricaria* and Ruff *Philomachus pugnax*. Also nationally important populations of Shelduck *Tadorna tadorna*, Teal *Anas crecca*, Pintail *Anas acuta*, Gadwall *Anas strepera*, Shoveler *Anas clypeata*, Tufted Duck *Aythya fuligula* and Pochard *Aythya farina* (English Nature (EN), 2000).
- 5.3.14 The Waterbird assemblage, Non-breeding for Benfleet and Southend Marshes SPA<sup>23</sup> is as follows:
- Dunlin, Calidris alpina, Ringed plover Charadrius hiaticula, Canada Goose Branta canadensis, Shelduck Tadorna tadorna, Wigeon Anas penelope, Teal Anas crecca, Mallard Anas platyrhynchos, Cormorant Phalacrocorax carbo, Oystercatcher Haematopus ostralegus, Avocet Recurvirostra avosetta, Golden plover Pluvialis apricaria, Lapwing Vanellus vanellus, Black-tailed godwit Limosa limosa, Bar-tailed godwit Limosa lapponica, Curlew Numenius arquata, Redshank Tringa totanus, turnstone Arenaria interpres, Black-headed gull Chroicocephalus ridibundus, Herring gull Larus fuscus and Great black-backed gull Larus marinus* (English Nature, 2001).
- 5.3.15 Potentially relevant qualifying 'features' identified in Benfleet and Southend Marshes SPA are: Brent Goose (Non-breeding); Ringed plover (Non-breeding); Grey plover (Non-

<sup>23</sup> [Marine site detail](#)



breeding); Red knot (Non-breeding); Dunlin (Non-breeding) and the above Waterbird Assemblage.

5.3.16 Potentially relevant 'features' identified in Benfleet and Southend Marshes Ramsar site are: wintering waterfowl; Brent goose (spring/autumn); Ringed plover and Grey plover (winter). Dunlin (winter) has been identified for possible future consideration.

5.3.17 Dark-bellied Brent geese use saltmarsh and intertidal areas for both feeding and roosting, and short grazing marshland for roosting. The presence of suitable low-lying grazing marsh along the outside of the site boundary has historically provided important supporting habitat for roosting. Natural England Conservation Advice for Marine Protected Areas Benfleet and Southend Marshes SPA<sup>24</sup> advises the following:

*When classified in 1994, this site supported 4% of the world population (English Nature (EN), 2001). The site continues to support a reduced population with the most recent figure representing approximately 0.6% of the world population (BirdLife International, 2014). Dark-bellied brent geese have seen a 44% decline in population size at this site since classification (Frost et al., 2017). The fluctuation in population size does not track the trends of this species, suggesting that the decline is influenced by the loss of saltmarsh within this site (Cook et al., 2013).*

*The dark-bellied brent geese wintering here migrate from their breeding grounds They roost in shallow, intertidal areas including brackish and freshwater grazing marshes, such as those around Two Tree Island, Canvey Island and the lower foothills of the Hadleigh Country Park (Fuller, 2015 Pers Comm).*

*Within areas of saltmarsh such as Benfleet creek, Leigh Beck Point, Hadleigh Ray, the periphery of Two Tree Island, Canvey Point and Leigh marshland, dark-bellied brent geese feed on intertidal plants such as *Enteromorpha* species, seagrass *Zostera* spp. and some littoral plants (English Nature, 2001). This species has been given a restore conservation objective.*

5.3.18 The data below is a snapshot taken from WeBS<sup>25</sup> counts the whole of the Thames Estuary, including both north and south shores. The Thames Estuary, for the purposes of WeBS, is usually taken to include the coast between the Rivers Medway and Crouch.

5.3.19 This gives a general indication that there has been a consistent downward trend in numbers on the estuary for Lapwing, while the trend is less clear for Golden Plover and Black-tailed Godwit.

<sup>24</sup> These details can be found at <https://designatedsites.naturalengland.org.uk/Marine/MarineSiteDetail.aspx?SiteCode=UK9009171&SiteName=ma&countyCode=&responsiblePerson=&SeaArea=&IFCAAarea=>. Click on the relevant Qualifying feature.

<sup>25</sup> [Wetland Bird Survey | JNCC - Adviser to Government on Nature Conservation](#)



**Figure 2: WeBS counts for the Thames Estuary**

| Species             | 18/19   | 19/20   | 20/21   | 21/22 | 22/23   | Mon | Moving<br>5yr avg | 18/19-22/23<br>5yr avg |
|---------------------|---------|---------|---------|-------|---------|-----|-------------------|------------------------|
| Lapwing             | 10,447  | (7,990) | 8,518   | 5,688 | 3,006   | Nov | 7,130             | 7,130                  |
| Golden Plover       | 10,104  | (8,161) | 3,414   | 6,254 | (3,092) | Dec | 6,983             | 6,983                  |
| Black-tailed Godwit | (8,373) | 8,850   | (3,170) | 4,438 | 6,076   | Sep | 6,934             | 6,934                  |

### Holohan Ruling and Consideration of Site of Special Scientific Interest (SSSIs)

5.3.20 Additional species listed within the relevant Sites of Special Scientific Interest have also been considered, in light of the Holohan ruling. It is necessary to consider species likely to be present in any of the Habitats sites, for which that site has not been listed – e.g. birds which are designated features of the underpinning SSSI – 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. The relevant SSSIs and their features are listed below.

#### Benfleet and Southend Marshes SSSI

5.3.21 The Benfleet and Southend Marshes SSSI citation contains the following species:

*Black-tailed godwit* - *Limosa limosa islandica*; *Common redshank* - *Tringa tetanus*; *Pied Oystercatcher* - *Haematopus longirostris*; *Beaked Tasselweed* - *Ruppia maritima*; *Brackish Water-Crowfoot* - *Ranunculus baudotii*; *Scarce Emerald Damselfly* - *Lestes dryas*; *Great Crested Newt* - *Triturus cristatus*; *White-letter Hairstreak* - *Strymonidia w-album*; *Marbled White* - *Melanargia galathea*; *picture winged fly* - *Myopites bloti*; *Great Green Bush-Cricket* *Tettigonia viridissima*; *Rose Plume-Moth* *Cnaemidophorus rhododactyla*.

#### South Thames Estuary Marshes SSSI

5.3.22 The South Thames Estuary Marshes SSSI citation contains the following species:

*European White-fronted Goose* - *Anser albifrons* spp *albifrons*; *Shelduck* - *Tadorna tadorna*; *Gadwall* - *Anas strepera*; *Teal* - *Anas crecca*; *Pintail* - *Anas acuta*; *Shoveler* - *Anas clypeata*; *Curlew* - *Numenius arquata*; *Greenshank* - *Tringa nebularia*; *Garganey* - *Anas querquedula*; *Bearded Tit* - *Panurus biarmicus*; *Short-eared Owl* - *Asio flammeus*; *Ruff* - *Philomachus pugnax*; *Common Tern* - *Sterna hirundo*; *eelgrass species* - *Zostera angustifolia*; *eelgrass species* - *Zostera noltii*; *Sea Kale* - *Crambe maritima*; *Scarce Emerald Damselfly* - *Lestes dryas*; *hoverfly* - *Lejops vittata*; *Shorebug* - *Saldula opacula*; *the Dotted Fan-foot Moth* - *Macrochilo cribrumalis*; *aquatic weevils* - four species of *Bagous* sp.; *water beetle* - three species of *Berosus* sp.; *Great Silver Water Beetle* - *Hydrophilus piceus*

#### Holehaven Creek SSSI

5.3.23 Holehaven Creek SSSI citation contains the following species:



Black-tailed godwit *Limosa limosa islandica*. Large waterfowl assemblage including curlew *Numenius arquata* and dunlin *Calidris alpina*. Saltmarsh with saltmarsh grass *Puccinellia maritima* sea aster *Aster tripolium* and seapurslane *Atriplex portulacoides*

### Mucking Flats and Marshes SSSI

5.3.24 The Mucking Flats and Marshes SSSI citation contains the following species:

Golden Samphire - *Inula crithmoides* and a rare spider - *Baryphyma duffeyi*

5.3.25 Mucking Flats and Marshes SSSI is approx. at least 4.5km from the Borough boundary upstream and it is not considered that there will be any additional impacts on the qualifying SSSI features from the Local Plan, which have not already been addressed within relevant SPAs and Ramsar sites.

5.3.26 All of the coastal habitats within Castle Point Borough are used by many of the above-listed species and those at Hadleigh Ray and Benfleet Creek, east of Canvey Island and Holehaven Creek are particularly important.

### **Policies / Allocations and Habitats Sites within Scope**

5.3.27 Many of the areas proposed for housing and employment, and new roads are unsuitable for use by the qualifying birds. Proposed development sites are generally situated within or adjacent to existing urban areas. Many are too small or too isolated; are the other side of the Canvey Island seawall from favoured habitat (the wall itself may provide a barrier); or they do not contain the appropriate habitat, which is predominantly large fields comprising arable and pastoral land uses and coastal habitats. Additionally, they may have significant human disturbance and are therefore unlikely to realistically support high numbers of qualifying birds. Proposed Site Allocations which are already developed, or which do not contain wetland, grazing marsh, grassland or arable land can be excluded from further consideration.

5.3.28 In addition to the above, other sources of information including RSPB High Tide counts for West Canvey Marshes (available on request); aerial photography and local knowledge have helped to eliminate most policies and Allocated Sites with respect to their impact upon Functionally Linked Land. There may be too many intervening barriers, or the land is too disturbed or it does not provide the habitats required by the qualifying bird species.

5.3.29 However, there are a number of locations which do have potential to be Functionally Linked Land.

5.3.30 It should also be highlighted that the relatively large size of proposed developments in west Canvey could singularly, or collectively, affect FLL. As well as being adjacent to Canvey Village Marsh LoWS, they are also adjacent to West Canvey Marshes LoWS and Canvey Wick SSSI.



- 5.3.31 The Extension to Charfleets Industrial Estate has already obtained planning permission and was allocated in the 1998 Adopted Local Plan. It has begun to be developed and there is no suitable habitat remaining that would support the qualifying features. Some of the land South of Northwick Road is adjacent to Canvey Wick Site of Special Scientific Interest. The site already has been granted planning permission and was allocated in the 1998 Adopted Local Plan. It also lies adjacent to Roscommon way and Northwick Road, which both have regular traffic usage. It is also considered that the site would probably be unsuitable for use by the SPA or Ramsar features (birds) as Functionally Linked Land, due to the regular disturbance by nearby traffic.
- 5.3.32 Land is safeguarded for an improved access at West Canvey and for future potential highways improvements linked with this in Policy T2 (Highway Improvements) and Policy C5 (Improving Access to Canvey). A potential route for improved access from Canvey would be towards Thurrock. The Reasoned Justification for Policy T2 refers to Policies C5 and C4 and recognises that, at this time, it is not known if it would be appropriate in planning or environmental terms to provide this route. Any crossings in this area could affect FLL. There could be significant potential for AEOI during the construction period and during its use.
- 5.3.33 There is also the potential for FLL to be affected if the ports area were to expand outside the existing curtilage under Policy C3: Canvey Port Facilities.
- 5.3.34 Policy ENV2 – Coastal & Riverside Strategy supports a Coastal & Riverside Strategy driven by the Thames 2100 Plan and intended to be created jointly with other organisations and separately from this Plan. Land within the Strategy is, by its nature, potentially on or near to FLL.
- 5.3.35 Policy SD1 - Tidal Flood Risk Management. As discussed in depth in the Land Take section above, under TE2100 the sea wall in the vicinity of Hadleigh Marshes will not be enhanced to protect it from sea level rise and so the land will be allowed to flood. This will affect areas outside the SPA boundary and there are areas of low-lying arable land near to Hadleigh Marshes, particularly immediately to the east of the SPA, which may also be flooded. These areas also have the potential to support qualifying features such as Brent Geese and Lapwing (part of the water bird assemblage) and could therefore be considered to be FLL. Its future will be governed by the Thames Estuary 2100 Plan and appropriate compensation will need to be sought to ensure that there will be no adverse effect on Site integrity.
- 5.3.36 Given that these proposals have already been assessed through the HRA process in the TE2100 Plan, it is felt that there is no need to duplicate this process in this document.
- 5.3.37 North of Canvey Island, the land rises relatively steeply and there is much less habitat opportunity due to the change of habitat type as well as the urbanised nature of the land. Thus, most higher areas of land, and areas away from the coast that obscured by urban



areas, can be ruled out from further assessment with regard to Functionally Linked Land. There are no Housing Allocations of concern north of here.

## Use of Mitigation Measures

- 5.3.38 Mitigation Measures are considered policy by policy in Table 19: Policies and Site Allocations which could adversely affect the Functionally Linked Land of Habitats sites and proposed additional mitigation. This Table considers the mitigation that is already embedded in the Local Plan with respect to Functionally Linked Land (FLL).
- 5.3.39 There are a number of policies which provide embedded mitigation. In particular, this includes ENV3: Securing Nature Recovery and Biodiversity Net Gain.
- 5.3.40 Some location specific policies and / or Reasoned Justifications already refer to the need to ensure that there will be no Adverse Effects on site Integrity (AEOI).
- 5.3.41 The third column in Table 19 shows the recommendations for additional mitigation to ensure there will be no Adverse Effects on Site Integrity (AEOI). These have subsequently also been included but are retained in the Table to demonstrate the changes that have been made during the Plan's development as an audit trail.
- 5.3.42 Mitigation is provided within Policy C5 (Improved Access to and around Canvey Island) by requiring a HRA for improvements to access to Canvey Island. The Policy and Reasoned Justification includes that it will be necessary to avoid any adverse effects on integrity. There is currently limited information available, and any such project will require robust surveys and assessment. Any proposal coming forward must be able to demonstrate that adverse effects on the integrity of Habitats sites can be avoided. The Policy has been amended to state that, "Options in the feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no adverse effect on integrity to internationally protected sites".
- 5.3.43 Policy T2 also includes support of a potential additional route from Canvey towards Thurrock and appears to be a likely policy to cause an AEOI. There is currently insufficient detail for this HRA to conclude, beyond scientific doubt, that there will be no adverse effects on site integrity of Thames Estuary & Marshes SPA & Ramsar site and associated Functionally Linked Land. The potential for adverse effects must be addressed once there is further information to do so. Given the limited information available, it was recommended that Policy T2 should explicitly add a requirement that any proposal for improvements to accessing Canvey Island must be able to demonstrate that adverse effects on the integrity of Habitats sites can be avoided.
- 5.3.44 It has been recommended that a Habitats Regulations Assessment will be required for any new development at the West Canvey developments to avoid any adverse effect on the integrity of nearby Habitats sites or Functionally Linked Land. These should demonstrate adequately that they do not support mobile qualifying species.



- 5.3.45 Any of the proposed development sites in West Canvey will need to demonstrate that they will not result in adversely effects on integrity alone or in combination.
- 5.3.46 It was recommended that the Reasoned Justification for Policy ENV2 – Coastal & Riverside Strategy should be subject to its own plan-level HRA.
- 5.3.47 It has also been recommended that Policy SD1 should be strengthened to explicitly state that Habitats sites should not be adversely affected. Any works to retain or enhance sea walls, or in the 19-metre safeguard buffer zone, should avoid causing adverse effect on site integrity. This will need to be demonstrated through a project-level HRA. Any development within Hadleigh Marshes should avoid causing adverse effect on site integrity. This will need to be demonstrated through a project-level HRA.



**Table 19: Policies and Site Allocations which could adversely affect the Functionally Linked Land of Habitats sites and proposed additional mitigation**

| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
| SP3 Meeting Development Needs                                   | <p>Policy sets out development needs and provision for housing supply and employment and includes principle of master planning for West Canvey and other sites. Includes green belt and grey belt. It sets out housing supply numbers for Specific Site Allocations and windfall developments.</p> <p>Outcome is uncertain and depends on the nature, scale and locations of proposals.</p> <p>No location identified in Policy for windfall sites and outcome is therefore uncertain. Site Allocations are addressed individually with this HRA.</p> <p>The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required for windfall sites on Canvey Island at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies SP3 and ENV3 provides suitable embedded mitigation measures.</p> | None  |
| Policy C3 - Canvey Port Facilities                              | <p>The ports are situated at the mouth of Holehaven Creek which is potentially FLL for Thames Estuary and Marsh SPA. The scale of any potential future redevelopment is not known.</p> <p>There are some areas of grassland within the current boundaries of the sites.</p>  | None  |



| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | <p>To the north is Brick House Farm Marsh LoWS a surviving area of the coastal grazing marsh habitat with seasonally wet low ways, which become fleets in wet years. It is not known who owns this land and whether it is part of the ports.</p> <p>Reasoned Justification includes that it will be necessary to avoid any adverse effects on the integrity.</p> <p>Policy requires compliance with ENV3.</p> <p>Embedded mitigation with the Plan is sufficient.</p>   |   |
| Policy C4 West Canvey   | <p>Located south of Northwick Road.</p> <p>The outcome of the policy at this stage is uncertain due to the requirement of subsequent masterplan- which is a consequence of this Plan - to include residential, community, commercial and industrial uses. 500-1000 homes.</p> <p>Located close to Holehaven Creek SSSI (c.400 metres) and opposite the Thames Estuary and Marshes SPA, located on south side of River Thames. Adjacent to Canvey Wick SSSI. The western section has planning permission which has not been implemented. Some of the site is already developed. There are other sections undeveloped areas between the developed areas and the Charfleets area to the east.</p> <p>This area appears likely to be too enclosed and contain too much scrub to support qualifying features (Google imagery), and too much disturbance from traffic and so seems unlikely to support significant numbers of qualifying species.</p> | None  |





| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
|   | <p>The LP requires a HRA for the masterplan and associated development. Embedded mitigation is sufficient.</p>   |   |
| <p>Policy C5- Improved Access to and around Canvey Island</p>   | <p>Details currently unknown and will be subject to a feasibility study. However, it supports improved access to, from and within Canvey Island and could potentially affect FLL. Including a third access to Thurrock. More detail is set out in Policy T2.</p> <p>Mitigation provided within Policy C5 by requiring a HRA for improvements to access to Canvey Island.</p> <p>The Policy and Reasoned Justification require that any feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no adverse effect on integrity to internationally protected sites.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p> | <p>None.</p>  |
| <p>Policy C8 Residential Park Home Sites, Canvey Island</p>     | <p>The semi natural open habitat areas around the perimeters of Sandy Bay Park and Kings Park have some potential as FLL. These are part of Thorneycreek Fleet LoWS which comprises wet reedbed, with associated marginal grassland and scrub. However, these are relatively narrow areas and unlikely to support significant numbers of qualifying species.</p>   | <p>None</p>   |





| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
|   | <p>Policy C8 requires compliance with all relevant policies, including requirements related to the Habitats Regulations.</p> <p>Embedded mitigation is sufficient.</p>   |   |
| Policy Hou4 – Specialist Housing Requirement                    | <p>Unknown locations at this stage.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity”.</p> <p>Embedded mitigation through ENV3 is sufficient.</p>  | None  |
| Policy Hou5 - Park Homes  | <p>The semi natural open habitats areas around the perimeters of Sandy Bay Park, Kings Park and Holehaven Caravan park have some potential as FLL. However, these are relatively narrow areas and unlikely to support significant numbers of qualifying services.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity”.</p> <p>Mitigation embedded within Policy C8 (Residential Park Home Sites, Canvey Island) is satisfactory, as it requires compliance with all relevant policies, including requirements related to the Habitats Regulations.</p> | None  |



| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
| Policy Hou6 - Gypsy and Traveller Provision                     | <p>Some sites are identified. The outcome of any others is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policy ENV3 provides suitable embedded mitigation measures.</p>  | None  |
| Policy E1- Development on Strategic Employment Land             | <p>The outcome of the policy at this stage is uncertain. Encourages development on four sites (West Canvey, Canvey town centre, Hadleigh town centre and Manor Trading Estate), two of which are on Canvey Island and close to open habitats which could potentially provide FLL. i.e.:</p> <p>SEL3 - Charfleets Industrial Estate &amp; Roscommon Way, Canvey and SEL4 - South Canvey Port Facilities.</p> <p>Areas east of Roscommon Way are likely to be too enclosed and/or disturbed. Unlikely to support significant numbers of qualifying species. Area west of Roscommon Way already has planning permission.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of any new development at SEL4 (South Canvey Port Facilities), West Canvey and Canvey Town Centre to avoid any adverse effects on integrity of nearby Habitats sites or functionally linked land".</p> <p>Policies E1 and ENV3 provide suitable mitigation measures.</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
| Policy E4 – Culture and Tourism                                 | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>The Reasoned Justification suggests various potential locations that could be improved for tourism:</p> <p>“the Canvey tidal sea pools, entertainment area on the Esplanade, Canvey market, Hadleigh Town Centre and Hadleigh Castle &amp; Country Park. There are also opportunities to link the food and beverage opportunities in South Benfleet to walking/hiking opportunities through and to Hadleigh and Thundersley”.</p> <p>Some of these areas are close to open habitats which could potentially provide FLL.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required of any project aimed at attracting large visitor numbers to avoid any adverse effects on the integrity of nearby Habitats sites or functionally linked land”.</p> | None.   |
| Policy TC3 - Retail Parks and Out of Centre Locations           | <p>TC3 supports Out of Centre Retail Park at West Canvey.</p> <p>Close to open habitats which could potentially provide FLL.</p> <p>See comments for Policy C4. This area appears likely to be too enclosed and contain too much scrub to support qualifying features (Google imagery), and too much nearby disturbance and so unlikely to support significant numbers of qualifying species.</p>   | None  |



| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Embedded mitigation for Policies C4 and ENV3 is sufficient</p>   |   |
| Policy ENV2 – Coastal & Riverside Strategy                      | <p>Policy supports a Coastal &amp; Riverside Strategy intended to be created jointly with other organisations and separately from this Plan.</p> <p>Land within the Strategy is, by its nature, potentially on or near to FLL.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity. The Riverside Strategy must be subject to a Habitats Regulations Assessment in order to demonstrate no adverse effects on site integrity. This will need to take into account the Castle Point Plan when considering in combination effects.”</p> | None.   |
| Policy Infra4 – Open Spaces                                     | <p>General policy. Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage for any facility near to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (as functionally linked land), in order to demonstrate no adverse effects on site integrity”.</p> <p>Policy ENV3 provides suitable mitigation measures.</p>   | None  |



| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
| Policy Infra6 - Communications Infrastructure                   | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policy ENV3 provides suitable mitigation measures.</p>   | None  |
| Policy T1 - Transport Strategy                                  | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policy ENV3 provides suitable mitigation measures.</p>   | None  |
| Policy T2 - Highway Improvements                                | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>T2 provides for new roads and land is safeguarded for new access at West Canvey. Any crossings in this area could affect FLL.</p> <p>Significant potential for AEOI during construction period and during use.</p> <p>Reasoned Justification refers to Policies C5 and C4.</p> <p>T2 now states: "Any improvements to accessing Canvey Island must avoid any adverse effects on the integrity of Habitats sites".</p> <p>The Reasoned Justification now states: "... further studies are required to explore this further. Any improvements to the access to Canvey Island must avoid any adverse effects on the integrity of Habitats Sites. A Habitats Regulations Assessment will be required to demonstrate no adverse effects on site integrity".</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to FLL          | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
| Policy T3 - Active Travel Improvements                                   | <p>Outcomes are uncertain and depend on location.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".Policy ENV3 provides suitable mitigation measures.</p>  | None  |
| Policy T4 - Improvements to Public Transport Infrastructure and Services | <p>Outcomes are uncertain and depend on location.</p> <p>Policy ENV3 provides suitable mitigation measures.</p>  | None  |
| Policy SD1 - Tidal Flood Risk Management                                 | <p>Similar issues raised in relation to Land Take above.</p> <p>There are areas of low-lying arable land immediately to the east of the SPA boundary (and outside of it), to the east of Hadleigh Marshes and just inside of the seawall. This area also has the potential to support qualifying features such as Brent Geese and Lapwing and could therefore be considered to be FLL. Its future will be governed by the Thames Estuary 2100 Plan and appropriate compensation will need to be sought to ensure that there will be no adverse effect on Site integrity.</p> <p>Policy ENV3 provides suitable mitigation measures.</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to FLL | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
|   | <p>The Reasoned Justification has been strengthened to explicitly state that Habitats sites should not be adversely affected. It now states: “Any development within Hadleigh Marshes should avoid causing adverse effects on sites’ integrity or compensation will be required if imperative reasons of overriding public interest agreed by the Secretary of State at application stage. This will need to be demonstrated through a project level Habitats Regulations Assessment.”</p> <p>and</p> <p>“Any works to retain or enhance sea walls, or within the 19m safeguarded buffer zone, should avoid causing adverse effects on site integrity. This will need to be demonstrated through a project level HRA.”</p> |   |





## Re-applying the Integrity Test

- 5.3.48 The Local Plan has incorporated the recommendations of this HRA. In light of the mitigation available it is therefore concluded that adverse effects on integrity can be ruled out in relation to the potential for the Local Plan proposals to result in reduced Functionally Linked Land on Habitats sites from the Plan alone.
- 5.3.49 The exception to this is Policy SD1 - Tidal Flood Risk Management which supports the Thames Estuary 2100 Plan TE2100. Appropriate compensation will need to be sought to ensure that there will be no adverse effects on site integrity.

## 5.4 Disturbance

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- 5.4.1 This section of the report considers the potential for adverse effects to the integrity of Habitats sites through disturbance (e.g. noise and visual disturbance) from the proposed policies and Site Allocations. This section includes consideration of an increase of any type of disturbance, for example from recreational use of an area resulting from new housing development; improved access due to transport infrastructure projects or increased noise arising from construction work.
- 5.4.2 Disturbance arising from potential recreational affects has been assessed separately from any other type of disturbance in the Appropriate Assessment. Potential effects to Habitats sites in scope from recreational Disturbance are considered first in the section below, followed by all other types of Disturbance ('non-recreational').
- 5.4.3 At Appropriate Assessment stage, it is now possible to consider the mitigation measures secured by the Essex Coast RAMS which provides a strategic approach to recreational disturbance for residential disturbance for in combination impacts. Consequently, a wholesale approach can be considered for these cases.
- 5.4.4 While much disturbance will be localised, the extent of disturbance above reflects the Zones of Influence (ZOI) that has been developed through the Essex Coast RAMS in relation to recreational disturbance. However, this is only triggered in combination with other plans and projects (Natural England advice to LPAs Nov 2017 & Aug 2018).
- 5.4.5 Recreational disturbance is addressed below and within the in-combination section. For other forms of disturbance Benfleet and Southend Marshes SPA and Ramsar site are the only Habitats sites to be considered due to the localised nature of disturbance, except for invasive species.
- 5.4.6 With respect to Disturbance caused by human activity, the Supplementary Advice for the "Thames Estuary and Marshes SPA and Benfleet and Southend Marshes SPA states the following:



*“The nature, scale, timing and duration of some human activities can result in bird disturbance (defined as any human-induced activity sufficient to disrupt normal behaviours and / or distribution of birds in the absence of the activity) at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population. Such disturbing effects can for example result in changes to feeding or roosting behaviour, increases in energy expenditure due to increased flight, abandonment of nest sites and desertion of supporting habitat (both within or outside the designated site boundary where appropriate). This may undermine successful nesting, rearing, feeding and/or roosting, and/or may reduce the availability of suitable habitat as birds are displaced and their distribution within the site contracts.*

*Disturbance associated with human activity may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals and structures.*

*‘Significant’ disturbance is defined by AEWA The Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), 2016)<sup>26</sup>:*

*“Disturbance should be judged as significant if an action (alone or in combination with other effects) impacts on (water)birds in such a way as to be likely to cause impacts on populations of a species through either*

- I. changed local distribution on a continuing basis; and/or*
- II. changed local abundance on a sustained basis; and/or*
- III. the reduction of ability of any significant group of birds to survive, breed, or rear their young.”*

5.4.7 The target set out in the Supplementary Advice for the “Thames Estuary and Marshes SPA and for Benfleet and Southend Marshes SPA is to “Reduce the frequency, duration and / or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed”

5.4.8 With respect to Thames Estuary and Marshes Several SPA, bird species have been shown to change their behaviour in response to recreational disturbance in the Thames Estuary and Marshes. This includes flying more than 50m as a result of being disturbed. Higher incidences of flight have been recorded at Grain compared to other sites surveyed in the area. Activities on the intertidal, especially involving dogs have been shown to be of particular concern. Disturbance has been shown to have more of an effect at high tide. Disturbance might be contributing to the decline in bird numbers that several species have had since classification.

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<sup>26</sup> The Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA). 2016. Resolution 6.7 - Adoption of guidance in the context of implementation of the AEWA action plan.



- 5.4.9 Disturbances have been recorded as a result of a range of human activities, such as walking/rambling, dog walking, cycling, jogging, fishing, motor vehicles, accessing boat or water, fast small boats, large boats, rowing, sailing, swimming etc. Fishing from the shore provided the greatest disturbance for each individual event, however dog walking and walking were by far the most numerous disturbances, often resulting in major flight events (flights of over 50 metres) from the birds. Areas with high human activity are found to be those with the lowest bird populations. In addition, broader studies have found dog walking, especially where dogs are let off the lead, to cause interference with birds. Residential developments within 6km of the SPA are likely to lead to further disturbance, as residents living nearby are likely to use the site.
- 5.4.10 The Port of London Authority can provide guidance and information regarding regulation of marine recreation in the tidal Thames.”
- 5.4.11 This is based on the North Kent Bird Disturbance Survey, which has found evidence to suggest human activities such as dog walking provide a source of disturbance to the birds using the site.
- 5.4.12 With respect to Benfleet and Southend and Marshes SPA, the advice is that there are many winter activities at the riverside and within the intertidal habitats and open waters of the SPA which have the capacity to disturb the SPA waterfowl interest and/or impact on its supporting habitat. This includes significant recreational watercraft use, bait digging, commercial fishing and development pressure (Southend on Sea Borough Council, 2010) (Liley et al., 2012) (BirdLife International, 2015) (Liley et al., 2012).
- 5.4.13 The target has been set using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.
- 5.4.14 Non-breeding wetland birds are particularly vulnerable to disturbance, including recreational disturbance and trampling of sensitive vegetation e.g. saltmarsh, and nutrient enrichment and erosion of habitats is a likely result of increased visitors to the coastal Habitats sites. For breeding SPA birds, different issues result from recreational disturbance. Key breeding roosts are known on particular estuaries/shorelines and in specific locations where habitat and conditions enable territories to become established. Recreational pressure adds to the stresses of defending a territory, laying eggs and rearing chicks which means that SPA birds are often more vulnerable, and levels of public access to breeding areas can rise in the summer months too. During the breeding season, recreational disturbance can affect breeding success as it can result in nest desertion, potential trampling of eggs and an increase in predation rates etc. (Liley & Sutherland 2007).
- 5.4.15 Recreational disturbance can result in trampling of sensitive vegetation, such as saltmarsh, and can cause nutrient enrichment and erosion of habitats contained with Ramsar site. The potential in combination effect of increased housing is discussed below in the Assessment of Impacts in Combination with other Plans and Projects.



5.4.16 In the tables below, taken from Natural England's Advice on Seasonality for Benfleet and Southend Marshes SPA and Thames Estuary and Marshes SPA, the months highlighted in green in each row indicate the months in which significant numbers of each mobile designated feature is most likely to be present at the Habitats site during a typical calendar year (NB there is no advice on seasonality for assemblage features). For the months not highlighted in green, features may be present in less significant numbers in typical years, but there may still be a significant effect.

| Feature name                           | Life Stage   | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Dark-bellied brent goose, Non-breeding | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Dunlin, Non-breeding                   | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Grey plover, Non-breeding              | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Knot, Non-breeding                     | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Ringed plover, Non-breeding            | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |

**Table 20: Advice on Seasonality for Benfleet and Southend Marshes SPA (Natural England)<sup>27</sup>**

**Table 21: Advice on Seasonality for Thames Estuary and Marshes SPA (Natural England)**

| Feature name                      | Life Stage   | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----------------------------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Avocet, Non-breeding              | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Black-tailed godwit, Non-breeding | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Dunlin, Non-breeding              | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Grey plover, Non-breeding         | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Hen harrier, Non-breeding         | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Knot, Non-breeding                | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Redshank, Non-breeding            | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |
| Ringed plover, Non-breeding       | Non-breeding |     |     |     |     |     |     |     |     |     |     |     |     |

5.4.17 Interrogation of the Advice on Operations for Benfleet and Southend Marshes SPA (Last updated: 23rd September 2024) sets out a number of issues that can disturb birds. Some key aspects are set out below.

5.4.18 Non-breeding Brent Geese:

*“Herbivorous & grazing species can be directly impacted by above water noise causing a disturbance Depending on the sound intensity birds may react by being alerted or taking flight Wright et al (2010) pointed out that impulsive sound in particular may result in disturbance For Brent geese, habituation to the proximity of people and to some loud noise,*

<sup>27</sup> [Designated Sites View](#)



*but not to low-flying aircraft which had the effect of making them fly, was reported by Hockin et al 1992). Although, areas disturbed by traffic were avoided by wintering Brent geese in early winter and only used when food was scarce elsewhere (Hockin et al 1992). The fact that noise-producing machines are regularly used as scaring devices for grazing birds on agricultural land indicates that noise causes disturbance and displacement. Nonetheless, several studies have reported habituation to scaring devices (eg Hockin et al 1992)*<sup>28</sup>

*Disturbance by anthropogenic activities to Non-breeding Dark-bellied brent goose may be as a result of “increased vessel movements, such as during construction phases for new infrastructure (bridges, cranes, port buildings, offshore platforms, offshore wind farms etc.), increased personnel movements, increased tourism, moving wind turbine blades, increased vehicular movements onshore and offshore disturbing bird roosting areas, rafting areas, feeding areas...”.*

- 5.4.19 Wading bird species can be directly impacted by above water noise causing a disturbance. Depending on the sound intensity birds may react by being alerted or taking flight. Wright et al. (2010) pointed out that impulsive sound in particular may result in disturbance. There are indications that feeding waders are not as strongly affected by loud noises than roosting birds and that there are species-specific tolerance levels (Cutts et al. 2009). Nonetheless, no species-specific information of vulnerability to noise was found for dunlin or grey plover or ringed plover<sup>29</sup>.
- 5.4.20 Birds can be displaced by any loud noise made onshore or offshore by construction, vehicles (including aircraft), vessels, tourism, mining, blasting etc. that may disturb birds and reduce time spent in feeding or breeding area.
- 5.4.21 “Dark-Bellied Brent Goose like other herbivorous & grazing birds are considered to be sensitive to visual disturbance. Evidence suggests when visually disturbed they respond by taking flight as a consequence of various visual stimuli (Rees et al 2005). A broad set of human activities causes visual disturbance (Rees et al 2005), as do permanent structures eg wind farms (Fijn et al 2012). Disturbance directly impacts herbivorous & grazing birds due to temporal or permanent loss of roosting and feeding habitat, influencing energy budgets and body conditions (Pease et al 2005; Gill 2007)...”
- 5.4.22 “Disturbance threshold distances were reported to vary with grazing field characteristics (size, and proximity to roads or tracks) and the type of disturbance.... People walking or biking appear to have a stronger disturbance potential on wintering waterfowl than vehicles (Pease et al 2005)”

### Recreational Disturbance

- 5.4.23 “Land based recreation may disturb species through the presence of participants (Saunders et al., 2000). People movement (as well as dogs and horses) can create visual

<sup>28</sup> <http://publications.naturalengland.org.uk/file/5873218494136320>

<sup>29</sup> <http://publications.naturalengland.org.uk/file/5873218494136320>



stimuli which may evoke a disturbance response in mobile species (Liley et al., 2012),(Taylor et al., 2005),(Liley et al., 2010). The magnitude of the pressure will depend on the nature and scale/intensity of the activity.”

- 5.4.24 “The risk of this pressure will increase depending on the spatial/ temporal scale and intensity of the activity, the proximity of the activity to the feature (in space and time) and the sensitivity of the feature to the pressure. Cumulative and in-combination effects of activities may increase the risk further (see Activity-Pressure justification text). For example, in large estuarine SPAs with high levels of coastal access, this pressure may occur at a level of concern and therefore require consideration.”
- 5.4.25 Disturbance on the Thames Estuary and Marshes SPA appears to be largely related to recreational disturbance: The Thames Estuary and Marshes Ramsar site Information Sheet (UK Thames Estuary and Marshes Final (2005)) includes at ‘Section 24, factors adversely affecting the site’s ecological character, including changes in land (including water) use and development projects’, “General Disturbance from human activities”, noted as a major on-site issue.



**Table 22: Habitats sites in scope which could be affected by impacts from Recreational disturbance resulting from the Local Plan alone**

| Policy/ Site Allocation within scope for issues relating to recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|--|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| SP3 Meeting Development Needs  | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy C2 - Canvey Seafront Entertainment Area                                       | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes embedded mitigation Policy ENV3  |
| Policy C6 - The South Canvey Green Lung  | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes embedded mitigation Policy ENV3  |
| Policy C7- Canvey Lake   | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes embedded mitigation Policy ENV3  |
| Policy C8 Residential Park Home Sites, Canvey Island                                 | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes embedded mitigation Policy C6 and C7   |





| Policy/ Site Allocation within scope for issues relating to recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|--|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy C9 - Land at the Point, Canvey Island   | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes embedded mitigation Policy C6 and C7   |
| Policy C10 - Other Housing Site Allocations on Canvey Island                         | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes embedded mitigation Policy C6 and C7   |
| Policy Had2 – Hadleigh Country Park, Hadleigh Farm and Benfleet and Southend Marshes | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy Had4 - Land south of Scrub Lane   | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy Thun2 – Kiln Road Campus  | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy Hou4 – Specialist Housing Requirements  | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|--|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy Hou5 - Park Homes   | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy GB2 – Previously Developed Land in the Green Belt                             | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy ENV2 – Coastal & Riverside Strategy   | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy T3 - Active Travel Improvements   | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |



## **Policies / Allocations and Habitats Sites within Scope (Recreational disturbance)**

- 5.4.26 To divert and deflect recreational pressure to alternative locations (i.e. away from the coastal Habitats sites), Natural England's advice is that provision of high quality Suitable Alternative Natural Greenspace (SANG) or SANG-like green infrastructure, should meet the daily recreational needs of new residents and avoid a Likely Significant Effect from increased recreational pressure. The provision of high-quality natural greenspace has been embedded into the Castle Point Plan by Strategic Policy SP4 and is assessed below.
- 5.4.27 There is the potential for large scale residential development and each application will need to be supported by sufficient provision of high quality natural greenspace within walking distance to meet Natural England's advice Annex 1 (2018).

### **Use of Mitigation Measures**

- 5.4.28 Mitigation measures are considered policy by policy in Table 23 below. This Table considers the mitigation that is already embedded in the Local Plan with respect to recreational Disturbance.
- 5.4.29 There are a number of policies which provide embedded mitigation including SP4 and also policies that require the provision of high-quality natural greenspace within walking distance of Site Allocations for new residential development.
- 5.4.30 Some location specific policies and / or Reasoned Justifications already refer to the need to ensure that there will be no Adverse Effects on site Integrity (AEOI).
- 5.4.31 The third column in the table shows the recommendations for any additional mitigation that may be required to ensure there will be no Adverse Effects on Site Integrity (AEOI). These have subsequently also been included but are retained in the Table to demonstrate the changes that have been made during the Plan's development as an audit trail. This includes embedded mitigation in Policies SP4 and also policies C7 and Thun4.
- 5.4.32 Given the location of Castle Point Borough in relation to the coastal Habitats sites, without mitigation, the quantity of residential development allocated in the Local Plan may result in significant number of new residents visiting them for their daily or weekly recreational needs. Some site allocations, for example those that are in close proximity to the coast and therefore, without mitigation, are the most likely to impact upon the nature conservation interests of Benfleet and Southend Marshes SPA and Ramsar site with respect to disturbance.
- 5.4.33 Access to high quality natural greenspace is therefore necessary to avoid adverse effects on site integrity of the Habitats sites within scope of this Appropriate Assessment from the Plan alone. Policies C7 and Thun4, will contribute to this embedded mitigation. The Local Plan also needs to consider the availability of on-site (i.e. within development boundaries)



avoidance measures (such as the recommended Green Infrastructure required by Strategic Policy SP4.

5.4.34 Annex 1 Natural England's recommendations for larger scale residential developments within the Essex Coast RAMS Zone of Influence states that applications for 100 units + or equivalent, as a guide, should include provision of well-designed open space/green infrastructure, proportionate to its scale. Such provisions can help minimise any predicted increase in recreational pressure to the Habitats sites by containing the majority of recreation within and around the development site boundary away from Habitats sites. Suitable Accessible Natural Greenspace (SANG) guidance here can be helpful in designing this. As a minimum, Natural England advise that such provisions should include:

- High-quality, informal, semi-natural areas
- Circular dog walking routes of 2.7 km<sup>2</sup> within the site and/or with links to surrounding public rights of way (PRoW)
- Dedicated 'dogs-off-lead' areas
- Signage/information leaflets to householders to promote these areas for recreation
- Dog waste bins
- A commitment to the long term maintenance and management of these provisions

5.4.35 Natural England is happy to advise developers and/or their consultants on the detail of this at the pre-application stage through their charged Discretionary Advice Service (DAS).

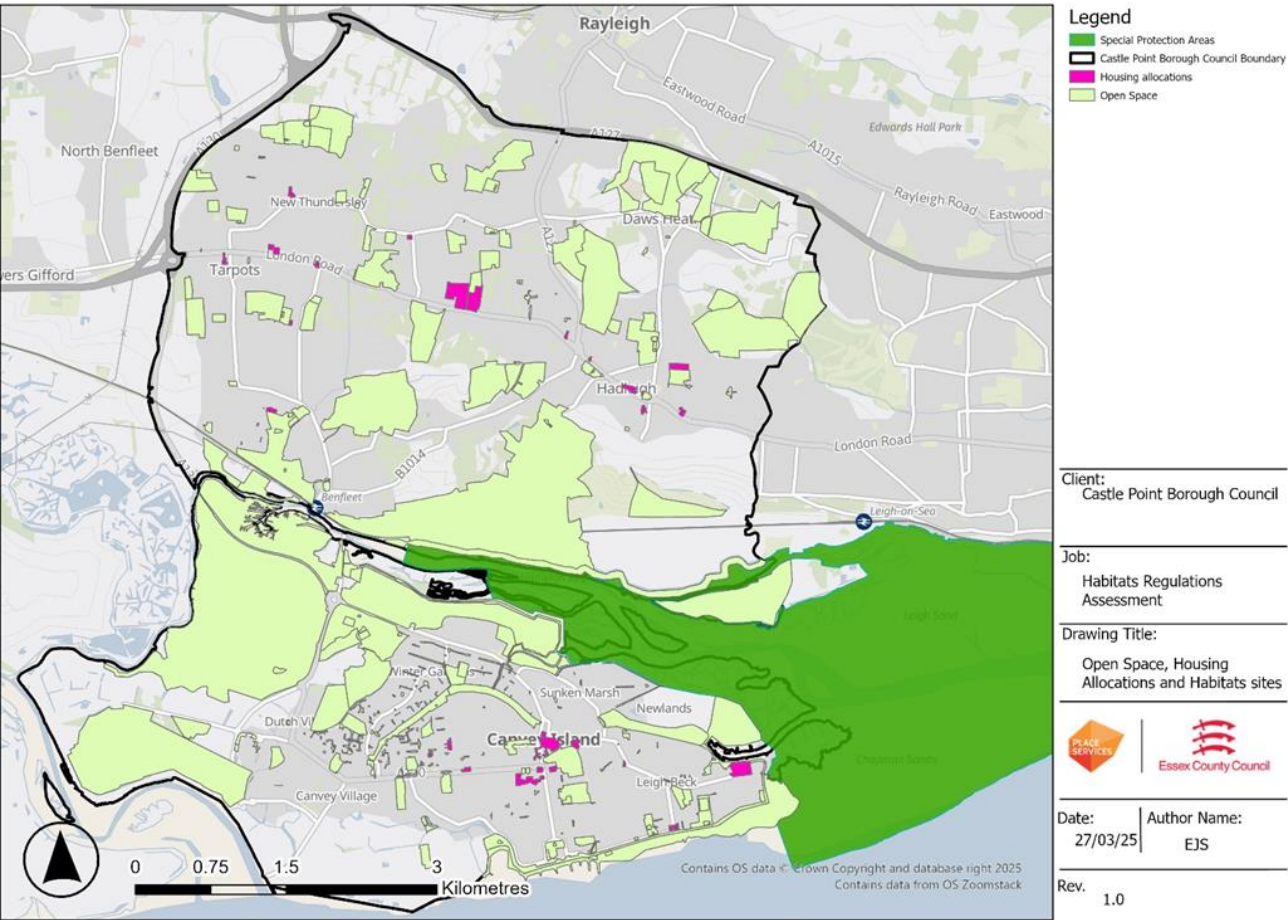
5.4.36 There is a potential for population growth arising in the Borough to have an adverse effect on integrity of Habitats sites through increased recreational pressure. Whilst on-site green infrastructure provision can offset some of this pressure and impacts from the development alone, the coast will nonetheless be a unique draw to visitors as it provides an environment which cannot be replicated elsewhere. It is therefore important that high quality greenspace is provided within walking distance of residential site allocations. For large scale residential developments within the Essex Coast RAMS Zone of Influence e.g. 100 units + or equivalent, Natural England advice Annex 1 (2018) is that Suitable Accessible Natural Greenspace (SANG) or SANG-like provision will be needed.

5.4.37 Most of the residential site allocations will have higher-densities across the plan area than existing and therefore be unable to provide green infrastructure within them, such as circular routes. However, mapping of residential site allocations has been prepared to show that open space is available within 1.3km walking distance for daily recreational needs with no restrictions on dogs. Figure 3 shows that all the residential site allocations areas of greenspace which can be enhanced to meet daily recreational needs. This provision of Green Infrastructure is embedded into the Castle Point Plan to support the project level HRAs at application stage to meet the recommended provision of avoidance measures within the individual developments. Enhancements in addition to those recommended by



Natural England include a dog agility trail and trim trail. Funding for natural greenspace has been identified in the Castle Point Infrastructure Delivery Plan with s.106 contributions required for all residential developments allocated in the Castle Point Plan. This green infrastructure provision aims to avoid adverse effect on site integrity from recreational disturbance/pressure impacts when the Castle Point Plan is considered alone.

Figure 3: Castle Point Plan site allocations and open spaces:





**Table 23: Policies and Site Allocations which could adversely affect Habitats sites through Recreational Disturbance and proposed additional mitigation**

| Policy/ Site Allocation within scope for issues relating to Recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy SP3- Meeting Development Needs  | <p>No location identified in policy and outcome is therefore uncertain.</p> <p>The Reasoned Justification includes: "A Habitats Regulations Assessment will be required for windfall sites on Canvey Island at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies SP3 and ENV3 provide suitable embedded mitigation measures.</p> | None  |
| Policy C2 - Canvey Seafront Entertainment Area                                       | Embedded mitigation in Policy ENV3 is sufficient.   | None  |
| Policy C6 - The South Canvey Green Lung  | Embedded mitigation in Policy ENV3 is sufficient.   | None  |
| Policy C7- Canvey Lake   | Embedded mitigation in Policy ENV3 is sufficient.   | None  |



| Policy/ Site Allocation within scope for issues relating to Recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy C8 Residential Park Home Sites, Canvey Island                                 | Embedded mitigation in Policies C6 and C7 is sufficient.  | None  |
| Policy C9 - Land at the Point, Canvey Island   | Embedded mitigation in Policies C6 and C7 is sufficient.  | None  |
| Policy C10 - Other Housing Site Allocations on Canvey Island                         | <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required of development proposals at C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land”.</p> <p>Embedded mitigation in Policies C6 and C7 is sufficient.</p> | None  |
| Policy Had2 – Hadleigh Country Park, Hadleigh Farm and Benfleet and Southend Marshes | Embedded mitigation in Policy ENV3 is sufficient.   | None  |





| Policy/ Site Allocation within scope for issues relating to Recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
| Policy Had4 - Land south of Scrub Lane   | Embedded mitigation in Policy ENV3 is sufficient.  | None.   |
| Policy Thun2 – Kiln Road Campus  | <p>Policy text refers to 617 units so there is a need for SANG provision.</p> <p>Policies Thun 4, SP4 and ENV3 provide suitable embedded mitigation measures.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity”.</p> | None.   |
| Policy Hou4 – Specialist Housing Requirements  | <p>No location identified in policy and outcome is therefore uncertain.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity”</p> <p>Policy ENV3 provides suitable embedded mitigation measures.</p>                     | None.   |



| Policy/ Site Allocation within scope for issues relating to Recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy Hou5 - Park Homes   | <p>No location identified in policy and outcome is therefore uncertain.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".</p> <p>Policy ENV3 provides suitable embedded mitigation measures.</p>   | None.   |
| Policy ENV2 – Coastal & Riverside Strategy   | <p>No location identified in policy and outcome is therefore uncertain.</p> <p>Policy ENV3 provides suitable embedded mitigation measures.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity. The Riverside Strategy must be subject to a Habitats Regulations Assessment in order to demonstrate no adverse effects on site integrity. This will need to take into account the Castle Point Plan when considering in combination effects."</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to Recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy T3 - Active Travel Improvements   | <p>No location identified in policy and outcome is therefore uncertain.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".</p> <p>Policy ENV3 provides suitable embedded mitigation measures.</p> | None.   |



## Re-applying the Integrity Test

5.4.38 The Castle Point Plan has incorporated the recommendations of this HRA. A Likely Significant Effect from Recreational disturbance can, with mitigation, be ruled out from the Plan alone. The predicted impact in-combination with other plans and projects is further assessed within the in-combination section of this Appropriate Assessment.

## 5.5 Other Forms of Disturbance (Non-Recreational Disturbance)

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5.5.1 At the Screening stage the following Habitats sites were listed as having the potential for Likely Significant Effects as a result of non-recreational disturbance, from the Castle Point Plan alone.

- Benfleet and Southend Marshes SPA and Ramsar site
- Thames Estuary and Marshes SPA and Ramsar site

5.5.2 A precautionary distance of 2km from an Allocated Site was used for non-recreational related disturbance for the Screening Assessment.

5.5.3 At the Screening stage a number of policies and Site Allocations were screened in as they were considered potentially likely to cause disturbance from construction or operational phases to Benfleet and Southend Marshes SPA and Ramsar Site or to Thames Estuary and Marshes SPA and Ramsar site due to the close proximity of these Habitats sites and/or their Functionally Linked Land within the Borough. This includes housing, retail, employment, transport, sea wall enhancements or other forms of development requiring construction relatively close to the above Habitats sites, predominantly on or near to Canvey Island.

5.5.4 Development in close proximity to Habitat sites would be most likely to cause a disturbance and therefore Benfleet and Southend Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site are the most likely Habitats Sites to be affected. However, the likelihood of disturbance will also vary according to the location, degree of openness and the species concerned. A new development of a similar nature situated within an existing built-up area is therefore unlikely to cause a significant amount of disturbance. Consequently, many development-related policies can be removed at this point.

5.5.5 Policies and Allocated Sites included at Screening Stage for non-recreational disturbance are set out in Table 24 below.

**Table 24: Habitats sites in scope which might be affected by impacts from Non-recreational Disturbance resulting from the Plan**

| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| SP3 Meeting Development Needs  | ✓  | ✓   | Yes   |
| Policy C2 - Canvey Seafront Entertainment Area   | ✓  | x   | Yes   |
| Policy C3 - Canvey Port Facilities   | ✓  | ✓   | Yes   |
| Policy C4 West Canvey  | x  | ✓   | Yes   |
| Policy C5- Improved Access to and around Canvey Island                                   | ✓  | ✓   | Yes   |
| Policy C6 - The South Canvey Green Lung  | ✓  | ✓   | Yes   |
| Policy C8 Residential Park Home Sites, Canvey Island                                     | ✓  | ✓   | Yes   |
| Policy C9 - Land at the Point, Canvey Island   | ✓  | x   | Yes   |
| Policy C10 - Other Housing Site Allocations on Canvey Island                             | ✓  | ✓   | Yes   |
| Policy B7 – Other Housing Site Allocations in Benfleet                                   | ✓  | ✓   | Yes   |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| Policy Hou4 – Specialist Housing Requirements  | ✓  | ✓   | Yes   |
| Policy Hou5 - Park Homes   | ✓  | ✓   | Yes   |
| Policy Hou6 - Gypsy and Traveller Provision  | ✓  | ✓   | Yes   |
| Policy E1- Development on Strategic Employment Land                                      | x  | ✓   | Yes   |
| Policy E2- Development of New Employment Floorspace in and around Town Centres           | ✓  | ✓   | Yes   |
| Policy E4 – Culture and Tourism  | ✓  | ✓   | Yes   |
| Policy TC1 - Town Centres  | ✓  | x   | Yes   |
| Policy TC3 - Retail Parks and Out of Centre Locations                                    | ✓  | ✓   | Yes   |
| Policy GB1 – Development affecting the Green Belt  | ✓  | ✓   | Yes   |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| Policy GB2 – Previously Developed Land in the Green Belt                                 | ✓  | ✓   | Yes   |
| Policy ENV2 – Coastal & Riverside Strategy   | ✓  | ✓   | Yes   |
| Policy Infra4 – Open Spaces  | ✓  | ✓   | Yes   |
| Policy Infra6 - Communications Infrastructure  | ✓  | ✓   | Yes   |
| Policy T1 - Transport Strategy   | ✓  | ✓   | Yes   |
| Policy T2 - Highway Improvements   | ✓  | ✓   | Yes   |
| Policy T3 - Active Travel Improvements   | ✓  | ✓   | Yes   |
| Policy T4 - Improvements to Public Transport Infrastructure and Services                 | ✓  | ✓   | Yes   |





| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| Policy SD1 - Tidal Flood Risk Management   | ✓  | ✓   | Yes   |
| Policy SD6 - Pollution Control   | ✓  | ✓   | Yes   |



- 5.5.6 The many human winter activities at the riverside and within the intertidal habitats and open waters which have the capacity to disturb the SPA waterfowl interest and/or impact on its supporting habitat includes development pressure. The disturbance may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals and structures.
- 5.5.7 The coastal wetland birds of the Thames Estuary are known to move between Essex and Kent twice a day to follow the tide (Harvey pers. com.). They tend to roost on the Kent marshes but move across to Essex to feed at low tide. Birds can become habituated to some kinds of disturbance, usually where the source of disturbance occurs in a predictable way<sup>30</sup>.
- 5.5.8 The Natural England Conservation Advice is for Marine Protected Areas it does not extend to terrestrial activities. The following is a list of marine activities that it provides.

- ▶ AGGREGATE EXTRACTION
- ▶ AQUACULTURE
- ▶ BEACH MANAGEMENT
- ▶ CABLES
- ▶ COASTAL DEVELOPMENT AND FLOOD AND EROSION RISK MANAGEMENT SCHEMES (construction)
- ▶ COASTAL DEVELOPMENT AND FLOOD AND EROSION RISK MANAGEMENT SCHEMES (maintenance)
- ▶ COASTAL DEVELOPMENT AND FLOOD AND EROSION RISK MANAGEMENT SCHEMES (operation)
- ▶ COASTAL INFRASTRUCTURE
- ▶ COMMERCIAL SHIPPING (operation)
- ▶ ELECTRICITY FROM RENEWABLE ENERGY SOURCES
- ▶ FISHING
- ▶ OIL, GAS AND CARBON CAPTURE STORAGE
- ▶ PORTS AND HARBOURS (construction)
- ▶ PORTS AND HARBOURS (maintenance)
- ▶ PORTS AND HARBOURS (operation)
- ▶ RECREATION

- 5.5.9 Ports have the potential to cause adverse effects through various means, such as disturbance, various forms of pollution (affecting water quality) and by the introduction of non-native invasive species.
- 5.5.10 The Designated Sites Advice on Operations for Thames Estuary and Marshes SPA<sup>31</sup> and for Benfleet and Southend Marshes SPA<sup>32</sup> were interrogated.

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<sup>30</sup> Possible Impacts of Disturbance to Waterbirds: Individuals, Carrying Capacity and Populations (Maarten Platteeuw, and Rene J H G Henkens) can be viewed at: [\(PDF\) Possible impacts of disturbance to waterbirds: Individuals, carrying capacity and populations](#)

<sup>31</sup> Advice on Operations for Thames Estuary and Marshes SPA can be viewed at [Designated Sites View](#)

<sup>32</sup> Advice on Operations for Benfleet and Southend Marshes SPA can be viewed at: [Designated Sites View](#)



- 5.5.11 Examples of disturbance include visual disturbance, lighting, above water noise; invasive species non-indigenous species (INIS); penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion.
- 5.5.12 The introduction of light is highlighted as a medium to high-risk operation for the qualifying birds during operation of ports and harbours. Lighting can cause disorientation or displace sensitive species.
- 5.5.13 Disturbance of the substratum may be caused by structures placed or driven (e.g. piles) into the seabed; vessel movements can cause localised scouring of the seabed, in shallow water, berth pockets, and navigation channel; navigation dredging and excavation activities result in the penetration of the seabed due to the physical removal of substrate. The anchors of large vessels have been found to penetrate the seabed up to 1m.
- 5.5.14 In relation to visual disturbance, the Designated Sites Advice on Operations<sup>33</sup> for Thames Estuary and Marshes SPA advises that *“Ports and harbour (from construction, maintenance or operational ) activities including vessel, vehicle movement, plus people presence and movement can create visual stimuli which can evoke a disturbance response to mobile species including fish, marine mammals, seabirds and coastal birds (Schwemmer et al., 2011),(Gill et al., 2001),(Liley et al., 2012),(Govarets and Lauwaert, 2009),(European Commission, 2011). The magnitude of the pressure will depend on the nature and scale/intensity of the activity, plus other factors such as species present and age, weather conditions, degree of habituation to disturbance source (Chatwin et al., 2013),(Jansen et al., 2010),(Cutts et al., 2009).”*
- 5.5.15 Examples of above water noise use of machinery, vessels, equipment, explosives, and people. *“Port construction, maintenance, and operation activities generate airborne noise and can increase noise above background/ambient noise levels; this can result in disturbance particularly to mobile receptors such as fish, bird, mammals (Paganelli et al., 2013),(Rogers et al., 2010),(OSPAR Commission, 2008),(Govarets and Lauwaert, 2009),(OSPAR Commission, 2008),(Ware, 2009),(Joint Nature Conservation Committee (JNCC) and Natural England, 2011),(Gill et al., 2001).”*
- 5.5.16 Ships involved in the movement of oil and gas typically operate across the globe, and as a consequence there is a risk that increased shipping activity will increase the risk of introduction or spread of *invasive species non-indigenous species* (INIS) being transported, via the hull fouling or within ballast water, into the marine elements of the Habitats sites. Artificial structures in the marine environment, e.g. breakwaters and jetties, have the potential to act as ‘stepping stones’ for the spread of non- native species.

<sup>33</sup> Advice on Operations for Thames Estuary and Marshes SPA can be viewed at [Designated Sites View](#)



5.5.17 The Designated Sites Advice on Operations<sup>34</sup> for Benfleet and Southend Marshes SPA indicates this as a potential pressure for several of the qualifying bird species and their supporting habitats.

5.5.18 The Site Improvement Plan for the Greater Thames Complex lists three separate issues and actions for invasive Species. These relate to:

- Sea squirt and pacific oyster
- Pennywort, Crassula, parrots feather
- *Spartina anglica*

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

5.5.20 There are systems already in place to ensure that all existing shipping activities adhere to legislation, codes of conduct and best practice measures to avoid the potential transmission of invasive species from hull fouling or within ballast water.

5.5.21 For coastal infrastructure and flood schemes, the key disturbance factors are visual disturbances; above and below water disturbance; damage to the seabed; introduction of light and Introduction or spread of invasive non-indigenous species (INIS).

### **Policies / Allocations and Habitats sites within Scope (Non-Recreational Disturbance)**

5.5.22 For non- recreational forms of disturbance, Benfleet and Southend Marshes SPA and Ramsar Thames and Estuary and Marshes Special Protection Area and Ramsar are the only Habitats sites to be considered due to the localised nature of disturbance, except for invasive species.

5.5.23 Any development near to the coast may cause disturbance and therefore there several policies relating to Canvey Island were screened in.

5.5.24 Generic mitigation can often be used where construction for any type of development may cause potential impacts. Measures proposed include Construction Environment (Ecological) Management Plans (CEMPs) which can address seasonal working, damping down of dust, screening and measures to alleviate noise pollution. CEMPs can be a condition of any planning permission. This should help to address noise, light and other (non-recreational) forms of disturbance.

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<sup>34</sup> Advice on Operations for Benfleet and Southend Marshes SPA can be viewed at: [Designated Sites View](#)



5.5.25 For developments near to the sea wall, this in itself may also provide a barrier for the disturbance effects behind it, to a greater or lesser extent. Any sound, light or noise which is able to travel over this may travel considerable distance in the absence of further barriers.

### Ports

5.5.26 There are currently two port facilities in the Borough, both located on south Canvey, and they are supported by the Local Plan through Policy C3 (Canvey Port Facilities). Policy C3 was screened in due to the proximity of the port area to the River Thames and potential need to mitigate disturbance.

5.5.27 There is the potential for increased disturbance if the ports area were to expand outside the existing curtilage as support by Policy C3 and Policy E1- Development on Strategic Employment Land.

### Transport

5.5.28 As already referred to in the Functionally Linked Land above, Policy T2: Highway Improvements supports new roads and improving existing highways. Land is safeguarded for new access at West Canvey land for future potential highways improvements linked with improving access to Canvey. Policy C5: Improving Access to Canvey, also protects the potential route for a third road from Canvey towards Thurrock. The Reasoned Justification for Policy T2 refers to Policies C5 and C4 and recognises that, at this time, it is not known if it would be appropriate in planning or environmental terms to provide this route.

5.5.29 This location is raised as an area of concern because it is currently relatively free from development and so there will be less habituation to such disturbance. Furthermore, coastal wetland birds of the Thames the Estuary are known to move between Essex and Kent twice a day to follow the tide. It is therefore possible that birds would move between Holehaven Creek SSSI (which is Functionally Linked Land) and South Thames Estuary and Marshes SSSI component of Thames Estuary and Marshes SPA and Ramsar site. In addition, the saltmarsh and mudflats in this location support internationally important numbers of Black-tailed Godwits.

5.5.30 This intention to cross Holehaven Creek SSSI would very likely cause disturbance to coastal birds, particularly during the construction period, as well as through use. In the long-term they may become habituated to traffic

5.5.31 There is currently insufficient detail for this HRA to conclude, beyond scientific doubt, that there will be no adverse effects on site integrity of Thames Estuary & Marshes SPA & Ramsar site and associated Functionally Linked Land. The potential for adverse effects must be addressed once there is further information to do so.



### Tidal Flood Risk Management (Policy SD1)

5.5.32 Flood defence works may cause disturbance due to their proximity to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (FLL).

5.5.33 The requirement for two storey homes instead of bungalows on Canvey (for human health and safety reasons) may result in greater levels of disturbance if noise and lighting is able to travel seaward over sea walls.

### Housing

5.5.34 Supported housing developments near to the sea wall include some of the Residential Park Home Sites on Canvey Island (C8 and Hou5)). Policy C9: Land at the Point, Canvey Island is near the eastern tip of the Island. Policy C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road are located on the southern side of Canvey Island.

### Coastal & Riverside Strategy (Policy ENV2)

5.5.35 A Coastal & Riverside Strategy will be prepared, driven by the Thames 2100 Plan and intended to be created jointly with other organisations and separately from this Plan. Land within the Strategy is, by its very nature, potentially on or near to the coast and rivers. It is assumed that this Strategy would be subject to its own Plan-level HRA.

## **Use of Mitigation Measures**

5.5.36 Mitigation Measures are considered below in Table 25: *Policies and Site Allocations which could adversely affect the Habitats sites through non-recreational disturbance*. This Table considers the mitigation that is already embedded in the Local Plan with respect to non-recreational disturbance.

5.5.37 There are a number of policies which provide embedded mitigation. In particular, these include the following:

- ENV3: Securing Nature Recovery and Biodiversity Net Gain
- SD6: Pollution Control

5.5.38 Some policies and / or Reasoned Justifications refer to the need to ensure that there will be no Adverse Effects on site Integrity (AEOI).

5.5.39 The third column in the table shows the recommendations for any additional mitigation that may be required to ensure there will be no Adverse Effects on site Integrity (AEOI). These have subsequently also been included but are retained in the Table to demonstrate the changes that have been made during the Plan's development as an audit trail.

5.5.40 Most forms of (non-recreational) disturbance are being addressed in the Castle Point Local Plan through Policy SD6 (Pollution Control). This Policy requires all development proposals to be designed to manage and reduce pollution impacts. They also must be located and



designed in manner which does not result in an adverse effect upon 'the environment' including disturbance, which must be mitigated where necessary.

- 5.5.41 Policy SD6 (Pollution Control) includes measures to avoid or reduce harmful effects on the environment resulting from noise, light and vibrations. It requires all major development proposals to be accompanied by a Construction Environment Management Plan. It also highlights that seasonal working may be required to avoid any adverse effects on the integrity of Habitats sites. Conditions, and exceptionally a Section 106 Agreement, will be used. Much of SD6 relates to the construction process rather than long term implementation of a scheme.
- 5.5.42 The embedded mitigation provided in Policy C3 (Canvey Port Facilities) is sufficient; a project-level HRA will be required to support any proposed developments. It must be ensured that there is adequate terrestrial and marine cross-border collaboration with the MMO to prevent issues being overlooked because they fall between the consenting bodies.
- 5.5.43 Policy C4 (West Canvey) requires a HRA for the masterplan and associated development. The embedded mitigation is sufficient for the current level of information available.
- 5.5.44 Mitigation is provided within Policy C5 (Improved Access to and around Canvey Island) by requiring a HRA for improvements to access to Canvey Island. The Policy and Reasoned Justification now includes that it will be necessary to avoid any adverse effects on the integrity. There is currently limited information available, and any such project will require robust surveys and assessment. Any proposal coming forward must be able to demonstrate that adverse effects on the integrity of Habitats sites can be avoided; the Policy must explicitly highlight this.
- 5.5.45 Policy T2 also includes support of a potential additional route from Canvey towards Thurrock and appears to be a likely policy to cause significant levels of disturbance. There is currently insufficient detail for this HRA to conclude, beyond scientific doubt, that there will be no adverse effects on site integrity of Thames Estuary & Marshes SPA & Ramsar site and associated Functionally Linked Land. The potential for adverse effects must be addressed once there is further information to do so. Given the limited information available, it was recommended that Policy T2 should explicitly add a requirement that any proposal for improvements to accessing Canvey Island must be able to demonstrate that adverse effects on the integrity of Habitats sites can be avoided.
- 5.5.46 It has also been recommended that Policy SD1 (Tidal Flood Risk Management Policy) should be strengthened to explicitly state that the integrity of Habitats sites should not be adversely affected. Any works to retain or enhance sea walls, should avoid causing AEOL. This will need to be demonstrated through a project-level HRA.





**Table 25: Policies and Site Allocations which could adversely affect Habitats sites through Non-recreational Disturbance and proposed additional mitigation**

| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
| SP3 Meeting Development Needs  | <p>Policy sets out development needs and provision for housing supply and employment and includes principle of master planning for West Canvey and other sites. Includes green belt and grey belt. It sets out housing supply numbers for Specific Site Allocations and windfall developments.</p> <p>Outcome is uncertain and depends on the nature, scale and locations of proposals.</p> <p>No location identified in policy for windfall sites and outcome is therefore uncertain. Site Allocations are addressed individually with this HRA.</p> <p>The Reasoned Justification includes: "A Habitats Regulations Assessment will be required for windfall sites on Canvey Island at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies SP3, ENV3 and SD6 provide suitable embedded mitigation measures.</p> | None.   |
| Policy C2 - Canvey Seafront Entertainment Area   | <p>A master plan will be prepared for the Canvey Seafront Entertainment area. Commercial and leisure development proposals to support the tourist industry. Masterplan will reflect the Riverside Strategy.</p>  | None.   |





| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
|  | <p>Just over 700 m from Benfleet and Southend Marshes SPA and Ramsar but adjacent to River Thames, behind the sea walls. Sound can carry further distances over water. Potential for AEOL during construction and use stages.</p> <p>The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies C2, ENV3 and SD6 provide suitable embedded mitigation measures.</p>         |   |
| Policy C3 - Canvey Port Facilities   | <p>The ports are situated at the mouth of Holehaven Creek and c.1.3km from Thames Estuary and Marshes SPA and Ramsar and at least 3.5km from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>The scale of any potential future redevelopment is not known.</p> <p>These sites contain hazardous waste and use both the River and roads for transportation.</p> <p>Potential for AEOL during construction and use stages.</p> <p>Requires compliance with ENV3.</p> <p>Embedded mitigation is sufficient.</p> | None  |
| Policy C4 West Canvey  | Located south of Northwick Road.  | None  |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
|  | <p>The outcome of Policy is uncertain due to the requirement of subsequent masterplan to include residential, community, commercial and industrial uses. 500-1000 homes.</p> <p>Located close to Holehaven Creek SSSI (c.400 metres) and opposite the Thames Estuary and Marshes SPA where it is located on south side of River Thames. Some of the site is already developed. The western section has planning permission which has not been implemented.</p> <p>Potential for AEOI alone during construction and use stages.</p> <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p> |   |
| Policy C5- Improved Access to and around Canvey Island                                   | <p>Details currently unknown and will be subject to a feasibility study. However, it provides for improved access to, from and within Canvey Island which could potentially create disturbances. More detail is set out in Policy T2.</p> <p>Potential for disturbance impacts alone during construction and use stages.</p> <p>The Policy and Reasoned Justification require that any feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no adverse effect on integrity to internationally protected sites.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p>          | None.   |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity   |
|--|--|---|
| Policy C6 - The South Canvey Green Lung  | <p>Discourages development but would allow solar arrays. In this circumstance Part 3 of C6 specifies that a HRA would be required to demonstrate no AEOL.</p> <p>Embedded mitigation is sufficient.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None.   |
| Policy C8 Residential Park Home Sites, Canvey Island                                     | <p>These are located close to the coast, either the northern side near Benfleet and Southend Marshes SPA and Ramsar or southern side near to River Thames.</p> <p>C8 specifically requires “compliance with all relevant policies in this Plan, including requirements related to the Habitats Regulations.”</p> <p>Embedded mitigation is sufficient.</p>   | None  |
| Policy C9 - Land at the Point, Canvey Island   | <p>Located c.135m from Benfleet and Southend Marshes SPA and Ramsar. Potential for disturbance impacts alone during construction and occupation stages.</p> <p>Part d) of C9 now states: “Make provision for open space on-site to minimise any impact on Habitats site;</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites”.</p> | <p>Additional text has been included to require avoidance of any AEOL. However, the preceding text in the Reasoned Justification only relates to recreational disturbance effects. Other effects may also be possible due to the close proximity with Benfleet and Southend Marshes SPA and Ramsar.</p> |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity  |
|--|--|--|
|  |  | <p>Further adjustment to text is recommended.</p> <p>Amend text to: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites, including from construction impacts as well as occupational impacts."</p> |
| <p>Policy C10 - Other Housing Site Allocations on Canvey Island</p>                      | <p>There are two locations- i.e. C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road -are located on the southern side of Canvey Island just behind the sea wall, and less than 1km from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Sound can carry further distances over water. Potential for AEOI during construction and use stages.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals at C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land".</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p> | <p>None.</p>   |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy B7 – Other Housing Site Allocations in Benfleet                                   | <p>B7A: Richmond Avenue Car Park is situated adjacent to South Benfleet playing fields which would not create a substantial buffer for noise and lighting.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required of development proposals at B7A: Richmond Avenue Car Park to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>       | None.   |
| Policy Hou4 – Specialist Housing Requirements  | <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity”</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>   | None  |
| Policy Hou5 - Park Homes   | <p>Criteria based policy regarding provision of park homes.</p> <p>Nearly 2,000 park homes located across three sites on Canvey (Kings Park, Sandy Bay and Holehaven Caravan park) and one site in Benfleet (Kingsleigh Park). Some of these are near to Benfleet and Southend Marshes SPA or Holehaven Creek (FLL).</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity”.</p> | None  |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
|  | <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p> <p>Mitigation is also embedded within Policy C8 (Residential Park Home Sites, Canvey Island) as it requires compliance with all relevant policies, including requirements related to the Habitats Regulations.</p>  |   |
| Policy Hou6 - Gypsy and Traveller Provision  | <p>Some sites are identified. The outcome of any others is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None  |
| Policy E1- Development on Strategic Employment Land                                      | <p>The outcome of the policy at this stage is uncertain. Encourages employment-related development on four sites (West Canvey, Canvey town centre, Hadleigh town centre and Manor Trading Estate), two of which are on Canvey Island and close to Habitats sites or FLL, i.e. SEL3 - Charfleets Industrial Estate &amp; Roscommon Way, Canvey and SEL4 - South Canvey Port Facilities.</p> <p>The Reasoned Justification now states; "A Habitats Regulations Assessment will be required of any new development at SEL4 (South Canvey Port Facilities), West Canvey and Canvey Town Centre to avoid any adverse effects on integrity of nearby Habitats sites or functionally linked land".</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p> | None.   |
| Policy E2- Development of New Employment   | Encourages employment-related development near to the Borough's existing town centres.  | None  |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Floorspace in and around Town Centres  | Policies ENV3 and SD6 provide suitable embedded mitigation measures.  |   |
| Policy E4 – Culture and Tourism  | <p>Policy encourages development to support tourism. Locations uncertain but include Canvey seafront; Hadleigh Castle and Country Park and walking/hiking opportunities through and to Hadleigh and Thundersley.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None  |
| Policy TC1 - Town Centres  | <p>Policy supports development in the existing urban town centres, i.e. Canvey Island, Hadleigh, South Benfleet and Tarpots.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None  |
| Policy TC3 - Retail Parks and Out of Centre Locations                                    | <p>Development and regeneration of two Out of Centre Retail Parks, one of which is located at West Canvey. Regeneration is supported.</p> <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Policies C4, ENV3 and SD6 provide suitable embedded mitigation measures.</p> | None  |
| Policy GB1 – Development affecting the Green Belt  | Strategic policy for non-housing applications within GB. Outcome is uncertain and depends on the nature, scale and location of proposals.   | None  |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
|  | Policies ENV3 and SD6 provide suitable embedded mitigation measures, except where additional mitigation is recommended through GB Site Allocation policies.  |   |
| Policy GB2 – Previously Developed Land in the Green Belt                                 | <p>Strategic policy for non-housing applications within GB. Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures, except where additional mitigation is recommended through GB Site Allocation policies.</p>  | None  |
| Policy ENV2 – Coastal & Riverside Strategy   | <p>Policy supports a cross-boundary Coastal &amp; Riverside Strategy intended to be created jointly with other organisations (including Environment Agency, ECC Lead Local Flood Authority, neighbouring authorities and local community) and separately from this Plan.</p> <p>It would use the three policy areas fall that within Castle Point, i.e. the Bowers Marshes policy unit, the Canvey Island policy unit and the Hadleigh Marshes policy unit, as set out in the Thames Estuary 2100 Plan.</p> <p>It also overlaps significantly with the Central Marshlands component of the South Essex Estuary Park initiative.</p> <p>Potential for AEOI due to close proximity to Benfleet and Southend Marshes SPA and FLL. Outcome is uncertain and depends on the nature, scale and locations of proposals in Strategy.</p> | None.   |





| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
|  | <p>This is a separate Strategy (from the Plan) but will be a material planning consideration when determining applications.</p> <p>This HRA recommended that the Strategy would be subject to its own HRA. The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity. The Riverside Strategy must be subject to a Habitats Regulations Assessment in order to demonstrate no adverse effects on site integrity. This will need to take into account the Castle Point Plan when considering in combination effects."</p>   |   |
| Policy Infra4 – Open Spaces  | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Development or regeneration of facilities may create AEOL, particularly during construction period.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage for any facility near to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (as functionally linked land), in order to demonstrate no adverse effects on site integrity".</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p> <p>The need for an HRA should be highlighted in Policy for any facility likely to impact Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (FLL).</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
| Policy Infra6 - Communications Infrastructure  | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None  |
| Policy T1 - Transport Strategy   | <p>Outcome is uncertain and depends on the nature, scale and location.</p> <p>It aims to “secure transport networks in Castle Point that deliver net zero carbon emissions by 2050, and ensure local air quality is maintained at acceptable levels”.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures for the level of information available.</p>   | None  |
| Policy T2 - Highway Improvements   | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>T2 provides for new roads and land is safeguarded for new access at West Canvey.</p> <p>Significant potential for AEOI during construction period and during use, e.g. by lighting and noise.</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p> <p>Reasoned Justification refers to Policies C5 and C4.</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
|  | <p>T2 now states: "Any improvements to accessing Canvey Island must avoid any adverse effects on the integrity of Habitats sites".</p> <p>The Reasoned Justification now states: "... further studies are required to explore this further. Any improvements to the access to Canvey Island must avoid any adverse effects on the integrity of Habitats Sites. A Habitats Regulations Assessment will be required to demonstrate no adverse effects on site integrity".</p> |   |
| Policy T3 - Active Travel Improvements   | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p>   | None  |
| Policy T4 - Improvements to Public Transport Infrastructure and Services                 | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p>   | None  |



| Policy/ Site Allocation within scope for issues relating to non-recreational Disturbance | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|--|---|
| Policy SD1 - Tidal Flood Risk Management   | <p>Outcome is uncertain and depends on the nature, scale and location of proposals. Flood defence works may cause disturbance due to their proximity to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (FLL).</p> <p>The need for taller homes instead of bungalows on Canvey (for human health and safety reasons) may result more disturbance if noise and lighting is able to travel above sea walls and to the seaward side of them.</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p> <p>The Reasoned Justification has been strengthened to explicitly state that Habitats sites should not be adversely affected. It now states: "Any development within Hadleigh Marshes should avoid causing adverse effects on sites' integrity or compensation will be required if imperative reasons of overriding public interest agreed by the Secretary of State at application stage. This will need to be demonstrated through a project level Habitats Regulations Assessment."</p> <p><u>and</u></p> <p><u>"Any works to retain or enhance sea walls, or within the 19m safeguarded buffer zone, should avoid causing adverse effects on site integrity. This will need to be demonstrated through a project level HRA."</u></p> | None.   |



## Re-applying the Integrity Test

5.5.47 The Castle Point Plan has incorporated the recommendations of this HRA. Likely Significant Effects from non-recreational disturbance this impact pathway can now be ruled out from the Plan alone

Additional text for C9 Land at the Point, Canvey Island has been included as recommended, to require avoidance of any AEOL. However, the preceding text in the Reasoned Justification only relates to recreational disturbance effects which could create some ambiguity as other effects may also be possible due to the close proximity with Benfleet and Southend Marshes SPA and Ramsar. Further adjustment to the text is therefore recommended to reflect this.

## 5.6 Water Quality

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- 5.6.1 This section of the report considers the potential for adverse effects to the site integrity of Habitats sites through changes to water quality as a result of proposed policies and Site Allocations. This could be as a result of a number of reasons such as changes in groundwater regimes due to increased impermeable areas; insufficient infrastructure to support the processing of wastewater, non-tidal flooding or through incorrectly controlled construction processes. The key issues are set out in the Castle Point Infrastructure Delivery Plan Baseline Review 2024<sup>35</sup>. These have been explored in the Screening section.
- 5.6.2 At the HRA Screening stage, the relevant policies that were screened in as having the potential for Likely Significant Effects as a result of water quality issues were listed in Table 13 above and in Appendix 1. This includes the majority of the policies screened in.
- 5.6.3 Many of the housing and employment allocations – and most other developments - have the potential to affect water quality. This may be through construction or through their long-term use.
- 5.6.4 The Habitats sites scoped in support features which are dependent on water quality. Any changes in water quality have the potential to significantly impact the Habitat sites alone or in combination.
- 5.6.5 As highlighted in the Screening section, an assessment of the key vulnerabilities contained within the Site Improvement Plans for the Habitats Sites within the scope of the HRA (Appendix 2) identified that water quality was not a significant factor affecting site integrity. However, any policies which have been highlighted as having a Likely Significant Effect to water quality are still to be considered within the Appropriate Assessment. This is because any significant changes to the hydrological regime may result in adverse effects to the

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<sup>35</sup> Castle Point Infrastructure Delivery Plan Baseline Review 2024. Can be viewed at [download.cfm](#)



highlighted Habitats sites due to potential impacts from the development alone or in-combination

- 5.6.6 Policies and Allocated Sites included at Screening Stage for water quality are set out in Table 26 below. This table also shows the Habitats sites which could be affected.

**Table 26: Habitats sites in scope which could be affected by impacts by Water Quality resulting from the Castle Point Plan**

| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy SP3- Meeting Development Needs                                     | ✓  | x                               | ✓                                       | x                   | ✓                   | ✓                       | ✓   | Yes  |
| Policy C1 - Canvey Town Centre  | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy C2 - Canvey Seafront Entertainment Area                            | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy C3 - Canvey Port Facilities  | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy C4 West Canvey   |  |                                 |   |                     |                     |                         |   |  |
| Policy C5- Improved Access to and around Canvey Island                    | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy C6 - The South Canvey Green Lung                                   | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy C7- Canvey Lake  | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy C8 Residential Park  | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |





| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Home Sites, Canvey Island   |  |                                 |   |                     |                     |                         |   |  |
| Policy C9 - Land at the Point, Canvey Island                              | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy C10 - Other Housing Site Allocations on Canvey Island              | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy B1 – South Benfleet Town Centre                                    | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy B2 – Tarpots Town Centre   | x  | x                               | ✓                                       | x                   | ✓                   | x                       | x   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy B3 – Former Furniture Kingdom site                                 | x  | x                               | ✓                                       | x                   | ✓                   | x                       | x   | Yes  |
| Policy B4 - South Benfleet Leisure Quarter                                | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy B7 – Other Housing Site Allocations in Benfleet                    | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy B8 – Manor Trading Estate  | x  | x                               | ✓                                       | x                   | ✓                   | x                       | x   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy B9 – South Benfleet Playing Fields                                 | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy Had1 – Hadleigh Town Centre  | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy Had3 – Hadleigh Clinic   | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy Thun2 - Kiln Rd Campus   | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy Thun 3 - Other Site Allocations in Thundersley                     | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy Hou4 – Specialist Housing Requirements                             | ✓  | x                               | ✓                                       | x                   | ✓                   | ✓                       | ✓   | Yes  |
| Policy Hou5 - Park Homes  | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy Hou6 - Gypsy and Traveller Provision                               | x  | x                               | ✓                                       | x                   | ✓                   | x                       | x   | Yes  |
| Policy E1- Development on Strategic Employment Land                       | ✓  | x                               | ✓                                       | x                   | ✓                   | ✓                       | ✓   | Yes  |
| Policy E2- Development of   | ✓  | x                               | ✓                                       | x                   | ✓                   | ✓                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| New Employment Floorspace in and around Town Centres                      |  |                                 |   |                     |                     |                         |   |  |
| Policy E4 – Culture and Tourism   | ✓  | x                               | x                                       | x                   | x                   | x                       | ✓   | Yes  |
| Policy TC1 - Town Centres   | ✓  | x                               | ✓                                       | x                   | ✓                   | ✓                       | ✓   | Yes  |
| Policy TC3 - Retail Parks and Out of Centre Locations                     | ✓  | x                               | ✓                                       | x                   | ✓                   | x                       | ✓   | Yes  |
| Policy GB1 – Development  | ✓  | x                               | ✓                                       | x                   | ✓                   | x                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| affecting the Green Belt  |  |                                 |   |                     |                     |                         |   |  |
| Policy GB2 – Previously Developed Land in the Green Belt                  | ✓  | x                               | ✓                                       | x                   | ✓                   | x                       | ✓   | Yes  |
| Policy ENV2 – Coastal & Riverside Strategy                                | ✓  | X                               | X                                       | X                   | X                   | X                       | ✓   | Yes  |
| Policy Infra4 – Open Spaces   | ✓  | X                               | X                                       | X                   | X                   | X                       | ✓   | Yes  |
| Policy Infra6 – Communications Infrastructure                             | ✓  | X                               | X                                       | X                   | X                   | X                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy T1 - Transport Strategy  | ✓  | X                               | ✓                                       | X                   | ✓                   | ✓                       | ✓   | Yes  |
| Policy T2 - Highway Improvements  | ✓  | X                               | ✓                                       | X                   | ✓                   | ✓                       | ✓   | Yes  |
| Policy T3 - Active Travel Improvements                                    | ✓  | X                               | X                                       | X                   | X                   | X                       | ✓   | Yes  |
| Policy T4 - Improvements to Public Transport Infrastructure and Services  | ✓  | X                               | X                                       | X                   | X                   | X                       | ✓   | Yes  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy SD1 - Tidal Flood Risk Management                                  | ✓  | X                               | X                                       | X                   | X                   | X                       | ✓   | Yes  |
| Policy SD2 - Non-Tidal Flood Risk Management                              | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy SD3 - Sustainable Urban Drainage Systems (SUDS)                    | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |
| Policy SD6 - Pollution Control  | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |





| Policy/ Site Allocation within scope for issues relating to Water Quality | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)? |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|--|
| Policy SD9 – Water Supply and Waste Water                                 | ✓  | X                               | ✓                                       | X                   | ✓                   | X                       | ✓   | Yes  |



- 5.6.7 As highlighted in the Castle Point Plan, the Thames River Basin Management Plan<sup>36</sup> (Environment Agency) shows that the lower Thames Estuary is of a moderate quality in terms of its ecological status and is failing to achieve a good chemical status. The Water Environment (Water Framework Directive) Regulations 2017 aims to secure no further deterioration of waterbodies and to ensure that the status of waterbodies is improved. This applies to the Thames Estuary and to all other main rivers in the Borough.
- 5.6.8 For water quality, the key issues (attributes) on the Designated Sites Supplementary Advice for Benfleet and Southend Marshes SPA <sup>37</sup> for the supporting habitat are listed as contaminants, dissolved oxygen, nutrients and turbidity.
- 5.6.9 For both nutrients and dissolved oxygen, the Supplementary Advice for Benfleet and Southend Marshes SPA states that there is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities for all qualifying species.
- 5.6.10 Turbidity levels can rise and fall rapidly as a result of biological (e.g. plankton blooms), physical (e.g. storm events) or human (e.g. development) factors. With respect to turbidity, the target is to Maintain natural levels of turbidity (e.g. concentrations of suspended sediment, plankton and other material) across the habitat. This has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.
- 5.6.11 For contaminants, the Supplementary advice target is to 'Reduce aqueous contaminants to levels equating to High Status according to Annex VIII and Good Status according to Annex X of the Water Framework Directive, avoiding deterioration from existing levels. This target was set using the Environmental Agency 2019 water body classifications data'. It states that, there is evidence from survey or monitoring that shows this attribute of the feature to be in a poor condition and/or currently impacted by anthropogenic activities. Contaminants may have a range of biological effects on different species within the supporting habitat, depending on the nature of the contaminant. The Thames Lower WFD water body overlaps with 89% of Benfleet and Southend Marshes SPA boundary. This water body failed WFD chemical status in the 2019 classification due to measured/assumed elevated levels of Benzo(g-h-i)perylene, Tributyltin Compounds, Cypermethrin, polybrominated diphenyl ether (PBDE) and mercury and its compounds. PBDE and mercury are persistent, bioaccumulative and toxic substances, which present risks to wildlife. There is evidence from survey or monitoring that shows this attribute of the feature to be in a poor condition and/or currently impacted by anthropogenic activities.

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<sup>36</sup> [Thames river basin district river basin management plan: updated 2022 - GOV.UK](#)

<sup>37</sup> The Designated Sites Supplementary Advice for Benfleet and Southend Marshes SPA can be viewed at: [Designated Sites View](#)



- 5.6.12 For water quality the key issues on the Designated Sites Supplementary Advice for Thames Estuary and Marshes SPA<sup>38</sup> for the supporting habitat are also listed as contaminants, dissolved oxygen, nutrients and turbidity.
- 5.6.13 As for Benfleet and Southend Marshes SPA, for nutrients and dissolved oxygen, the Supplementary Advice states that there is evidence from survey or monitoring that shows the feature to be in a good condition and/or currently un-impacted by anthropogenic activities for all qualifying species.
- 5.6.14 With respect to turbidity, the target is also to Maintain natural levels of turbidity across the habitat which has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.
- 5.6.15 For contaminants the Supplementary advice target is also to 'Reduce aqueous contaminants to levels...
- 5.6.16 This target has been set according to Water Framework Directive (WFD) chemical status of overlapping water bodies. The Thames Lower and Thames Middle WFD water bodies together overlap with 54% of Thames Estuary and Marshes SPA boundary. These water bodies failed WFD chemical status in the 2019 classification due to measured/assumed elevated levels of Benzo(g-h-i) perylene, Tributyltin Compounds, polybrominated diphenyl ether (PBDE) and mercury and its compounds, with additional failures for Benzo(b)fluoranthene and Perfluorooctane sulphonate (PFOS) (Thames Middle only), and Cypermethrin (Thames Lower only). PBDE and mercury are persistent, bioaccumulative and toxic substances, which present risks to wildlife. This has been set due to evidence suggesting high levels of Tributyl Tin within the Thames Estuary.
- 5.6.17 The Local Plan proposes an increase in housing numbers, and this may have a knock-on effect on the infrastructure to support them which, in turn may affect habitats and qualifying species, for example from increased surface water flooding and sewage systems. These issues are considered below.

#### Surface and Fluvial Water Flooding

- 5.6.18 The Water Strategy for Essex 2024 (Essex County Council)<sup>39</sup> highlights that Essex, including Castle Point, is within an area of serious water stress. It seeks for developments to become water neutral and recommends that Local Planning Authorities promote water efficiency in new developments and encourage the use of grey water.
- 5.6.19 Climate Change and Flood Risk supporting documents for Castle Point Borough can be found at:

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<sup>38</sup> The Designated Sites Supplementary Advice for Thames Estuary and Marshes SPA can be viewed at: [Designated Sites View](#)

<sup>39</sup> [Water strategy for Essex | Essex County Council](#)



<https://www.castlepoint.gov.uk/search?term=Climate+Change+and+Flood+Risk&search=Search&searchType=all>

- 5.6.20 The flat, low-lying topography of Canvey Island creates issues associated with surface water management and the ability to drain water away during heavy rainfall events, causing localised issues of surface water flooding.
- 5.6.21 Ground levels on Canvey Island are nearly two metres below the daily high tide level in the Thames estuary. There are no natural streams or rivers; instead, it has a complex and interlinked network of surface water sewers, open and culverted ditches, ponds, and pumping stations. Rainfall runoff is collected and channelled to the pumping stations and *gravity* outfalls around the edge of the Island and pumped or drained out to the Thames estuary. Flooding within the Island's walls can occur if the amount of rain falling is greater than the capacity of the entire drainage network. Outflow pipes thus discharge a range of substances into the marine environment such as industrial effluent, treated sewerage, storm overflow and drainage.
- 5.6.22 Information can be found regarding flooding on Canvey Island at <https://www.castlepoint.gov.uk/revetment-project-flood-risks>. This describes the following.
- 5.6.23 The Benfleet and Southend Marshes SPA Advice on Operations for Outfalls/ Intake pipes (maintenance, construction and usage)<sup>40</sup> on the Designated Sites website provides a list of pressures which are copied below. The list is similar for Thames Estuary and Marshes SPA. Some of these relate to Water Quality. As shown in the key below the risks highlighted in red are considered to be medium to high. Those birds and habitats marked with an 'S' are Sensitive and those with NS' are Not Sensitive.

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<sup>40</sup> [Designated Sites View](#)

**Figure 4: Natural England's Advice on Operations for Outfalls/ Intake pipes (maintenance, construction and usage) (Coastal Infrastructure) at Benfleet & Southend Marshes SPA**

| Viewing Advice on Operations for: Outfalls/ Intake pipes (maintenance/construction/usage)  |  |                      |                           |                    |                             |                                      |  |                       |                 |                          |                                       |                            |                            |                |                                |              |
|--|--|----------------------|---------------------------|--------------------|-----------------------------|--------------------------------------|--|-----------------------|-----------------|--------------------------|---------------------------------------|----------------------------|----------------------------|----------------|--------------------------------|--------------|
| Pressure Name  | Bird                                   |                      |                           |                    |                             | Supporting habitat                   |  |                       |                 |                          |                                       |                            |                            |                |                                |              |
|  | Dark-bellied brent goose, Non-breeding | Dunlin, Non-breeding | Grey plover, Non-breeding | Knot, Non-breeding | Ringed plover, Non-breeding | Freshwater and coastal grazing marsh | Salicornia and other annuals colonising mud and sand | Atlantic salt meadows | Spartina swards | Intertidal seagrass beds | Intertidal biogenic reef: mussel beds | Intertidal coarse sediment | Intertidal mixed sediments | Intertidal mud | Intertidal sand and muddy sand | Water column |
| Above water noise  | S                                      | S                    | S                         | S                  | S                           |                                      |  |                       |                 |                          |                                       |                            |                            |                |                                |              |
| Abrasion/disturbance of the substrate on the surface of the seabed   |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | S                        | S                                     | S                          | S                          | S              | S                              |              |
| Barrier to species movement  |  |                      |                           |                    |                             | S                                    | S  | S                     | S               |                          | S                                     | NS                         | NS                         | NS             | NS                             | S            |
| Changes in suspended solids (water clarity)  |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | S                        | NS                                    | S                          | S                          | S              | S                              | S            |
| Habitat structure changes - removal of substratum (extraction)   |  |                      |                           |                    |                             | IE                                   | S  | S                     | S               | S                        | S                                     | S                          | S                          | S              | S                              | S            |
| Penetration and/or disturbance of the substratum below the surface of the seabed, including abrasion                                       |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | S                        | S                                     | S                          | S                          | S              | S                              |              |
| Physical change (to another sediment type)   |  |                      |                           |                    |                             |                                      | S  | S                     | S               | S                        | S                                     | S                          | S                          | S              | S                              |              |
| Physical loss (to land or freshwater habitat)  |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | S                        | S                                     | S                          | S                          | S              | S                              | S            |
| Smothering and siltation rate changes (Heavy)  |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | S                        | S                                     | S                          | S                          | S              | S                              |              |
| Smothering and siltation rate changes (Light)  |  |                      |                           |                    |                             | NS                                   | NS   | NS                    | NS              | S                        | S                                     | S                          | S                          | S              | S                              |              |
| Visual disturbance   | S                                      | S                    | S                         | S                  | S                           |                                      |  |                       |                 |                          |                                       | NS                         |                            |                | NS                             | S            |
| Collision ABOVE water with static or moving objects not naturally found in the marine environment (e.g., boats, machinery, and structures) | S                                      | S                    | S                         | S                  | S                           |                                      |  |                       |                 |                          |                                       |                            |                            |                |                                |              |
| Deoxygenation  |  |                      |                           |                    |                             | NS                                   | NS   | NS                    | NS              | NS                       | NS                                    | NS                         | S                          | NS             | S                              | S            |
| Genetic modification & translocation of indigenous species   |  |                      |                           |                    |                             | IE                                   | S  | S                     | S               | IE                       | IE                                    |                            | IE                         |                |                                | S            |
| Hydrocarbon & PAH contamination  | NA                                     | NA                   | NA                        | NA                 | NA                          | NA                                   | NA   | NA                    | NA              | S                        | S                                     | NA                         | NA                         | S              | S                              | NA           |
| Introduction of light  | S                                      | S                    | S                         | S                  | S                           |                                      |  |                       |                 | S                        | IE                                    | IE                         | IE                         | NS             | S                              | S            |
| Introduction of microbial pathogens  | S                                      | S                    | S                         | S                  | S                           | IE                                   | S  | S                     | S               | S                        | S                                     | IE                         | S                          | S              | S                              | NS           |
| Introduction of other substances (solid, liquid or gas)  | NA                                     | NA                   | NA                        | NA                 | NA                          | NA                                   | NA   | NA                    | NA              | IE                       | IE                                    | NA                         | NA                         | S              | S                              | NA           |
| Introduction or spread of invasive non-indigenous species (INIS)   | IE                                     | S                    | S                         | S                  | NS                          | IE                                   | S  | S                     | S               | S                        | S                                     | IE                         | S                          | IE             | S                              | S            |
| Litter   | IE                                     | IE                   | IE                        | IE                 | IE                          | S                                    | S  | S                     | S               | NA                       | NA                                    | NA                         | NA                         | NA             | NA                             | S            |
| Nutrient enrichment  |  |                      |                           |                    |                             | NS                                   | NS   | NS                    | NS              | S                        | NS                                    | NS                         | NS                         | NS             | NS                             | S            |
| Organic enrichment   |  |                      |                           |                    |                             | NS                                   | NS   | NS                    | NS              | S                        | NS                                    | NS                         | NS                         | NS             | NS                             | S            |
| Radionuclide contamination   | IE                                     | IE                   | IE                        | IE                 | IE                          | IE                                   | IE   | IE                    | IE              | IE                       | IE                                    | IE                         | IE                         | IE             | IE                             |              |
| Salinity decrease  |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | NS                       | NS                                    | NS                         | S                          | S              | S                              | S            |
| Salinity increase  |  |                      |                           |                    |                             | S                                    | S  | NS                    | S               | S                        | NS                                    | IE                         | S                          | S              | S                              | S            |
| Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals)   | NA                                     | NA                   | NA                        | NA                 | NA                          | NA                                   | NA   | NA                    | NA              | S                        | S                                     | NA                         | NA                         | S              | S                              | NA           |
| Temperature decrease   |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | NS                       | NS                                    | S                          | S                          | NS             | S                              | S            |
| Temperature increase   |  |                      |                           |                    |                             | S                                    | S  | S                     | S               | NS                       | NS                                    | NS                         | NS                         | NS             | S                              | S            |
| Transition elements & organo-metal (e.g. TBT) contamination  | NA                                     | NA                   | NA                        | NA                 | NA                          | NA                                   | NA   | NA                    | NA              | NS                       | S                                     | NA                         | NA                         | S              | S                              | NA           |
| Underwater noise changes   | IE                                     |                      |                           |                    |                             |                                      |  |                       |                 |                          |                                       |                            |                            |                |                                | S            |
| Water flow (tidal current) changes, including sediment transport considerations  |  |                      |                           |                    |                             |                                      | NS   | NS                    | NS              | S                        | S                                     | NS                         | S                          | S              | S                              | S            |
| Wave exposure changes  |  |                      |                           |                    |                             | NS                                   | NS   | NS                    | NS              | S                        | S                                     | NS                         | NS                         | NS             | NS                             | S            |



Key for Figure 4 above:

| Risk Profile of Pressure |  | Recommendation   |
|--------------------------|--|--|
| Medium-High Risk         |  | Pressure is commonly induced by activity at a level that needs to be considered further as part of an assessment   |
| Low Risk                 |  | Unless there are evidence based case or site specific factors that increase the risk, or uncertainty on the level of pressure on a receptor, this pressure generally does not occur at a level of concern and should not require consideration as part of an assessment. |

| Interaction type    |                       | Sensitivity category description  |
|---------------------|-----------------------|---|
| Direct <sup>1</sup> | Indirect <sup>2</sup> |   |
| S                   | S*                    | SENSITIVE: The evidence base suggests the feature is sensitive to the pressure at the benchmark. This activity-pressure-feature combination should therefore be taken to further assessment.  |
| IE                  | IE*                   | INSUFFICIENT EVIDENCE TO ASSESS: The evidence base is not considered to be developed enough for assessments to be made of sensitivity at the pressure benchmark. This activity-pressure-feature combination should therefore be taken to further assessment. The best available evidence, relevant to the activity in question, at the time of application, should be sourced and considered in any further assessment.   |
| NA                  | NA*                   | NOT ASSESSED: A sensitivity assessment has not been made for this feature to this pressure. However, this activity-pressure-feature combination should not be precluded from consideration. The best available evidence, relevant to the activity in question, at the time of application, should be sourced and considered in any further assessment.  |
| NS                  | NS*                   | NOT SENSITIVE AT THE BENCHMARK: The evidence base suggests the feature is not sensitive to the pressure at the benchmark. However, this activity-pressure-feature combination should not be precluded from consideration (e.g. thought needs to be given to activity specific variations in pressure intensity and exposure, in-combination and indirect effects). The best available evidence, relevant to the activity in question, at the time of application, should be sourced and considered in any further assessment. |
|                     |                       | NOT RELEVANT: The evidence base suggests that there is no interaction of concern between the pressure and the feature OR the activity and the feature could not interact.   |

<sup>1</sup>An activity which exerts pressures that interact with a feature within the spatial and/or temporal footprint of the operation

<sup>2</sup>An activity which exerts pressures that interact with a feature not associated with the immediate spatial and/or temporal footprint of the operation

5.6.24 Inland, the topography of the land generally slopes southwards towards the River Thames. The *South Essex Catchment Flood Management Plan*<sup>41</sup> sets out the approach that should be taken to fluvial and surface water flood issues in South Essex.

5.6.25 The north of the Borough falls into the Crouch catchment; which provides a low, but real, potential for connecting tributaries to affect the Crouch and Roach SPA and Ramsar site. However, this is at least 7 km to the north east, and so most problems would be dissipated.

5.6.26 The potential for adverse effects upon Benfleet and Southend Marshes SPA and Ramsar site and the Thames Estuary and Marshes SPA and Ramsar site is a far greater risk for reasons set out below.

5.6.27 Responsibility for managing the flood risk is split between various agencies, as follows.

- Essex County Council is responsible for public highways;
- Anglian water is responsible for public sewers;
- Homeowners/landowners are responsible for private drainage, such as gutters, downpipes and drains that serve one property as well as watercourses within land ownership boundaries;
- Essex County Council as the Lead Local Flood Authority (LLFA) is responsible for groundwater, surface water, ordinary watercourses;
- Castle Point Borough Council is responsible for ordinary watercourses;
- Environment Agency is responsible for the sea and main river watercourses.

<sup>41</sup> [South Essex Catchment Flood Management Plan.pdf](#)





- 5.6.28 The Local Plan recognises that there are many existing inland and coastal flooding issues in Castle Point Borough and any development has the potential increase problem without mitigation. These issues are set out below.
- 5.6.29 The South Essex Strategic Flood Risk Assessment<sup>42</sup> Level 1 (SFRA) (April 2018) has assessed tidal, surface, rivers, groundwater, sewers and other sources. It provides maps showing modelling of flooding, separated into various categories, e.g. Flood and Tidal Zones<sup>43</sup>. The study also found that tidal and fluvial flooding poses the most significant risk to Castle Point, in particular Canvey Island and Hadleigh Marshes. The topography and location of watercourses on Canvey Island means that the whole island is at risk from tidal and fluvial flooding.
- 5.6.30 The South Essex Level 1 Strategic Flood Risk Assessment describes how surface water flooding in Castle Point is particularly driven by local topography which predominantly slopes towards watercourse channels and their tributaries including the Benfleet Creek and Prittle Brook. Localised flooding can be attributed to topographic depressions, insufficient capacity within ordinary watercourses and culverts, as well as obstructions to surface water flow paths. Flooding from surface water can also be associated with the failure in the management of the drainage network during high rainfall events.
- 5.6.31 Six Critical Drainage Areas have been identified in the South Essex Surface Water Management Plan (SWMP)<sup>44</sup>. These are defined by ECC as the Lead Local Flood Authority. Surface water flood risk across the Borough is shown on the *Essex County Council- Mapped Flood Information*<sup>45</sup>
- 5.6.32 The South Essex area is also recognised nationally as a Flood Risk Area (FRA) by the Environment Agency. Canvey Island has its own FRA due to the nature of flood risk, arising from multiple flooding sources and complex asset maintenance requirements. The Environment Agency also maps the *Risk of Flooding from Surface Water*<sup>46</sup>. This shows that there is high probability of surface water flooding on Canvey Island and at South Benfleet. It shows the high-risk fluvial flow paths in the South Benfleet and Thundersley areas. The majority of high surface water flood risk extends along the courses of the Hadleigh Ray (part of Benfleet and Southend Marshes SPA and Ramsar site) and along the course of ordinary watercourses in the Borough.
- 5.6.33 A single Integrated Urban Drainage model (IUD) for Canvey Island sets out the detailed drainage network and associated flood risk on Canvey Island. This has been used to update the Environment Agency's Risk of Flooding from Surface Water Map.

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<sup>42</sup> [South Essex Strategic Flood Risk Assessment | CastlePoint](#)

<sup>43</sup> SFFRA Flood and Tidal Zones can be viewed at: [download.cfm](#)

<sup>44</sup> The South Essex SWMP can be viewed at [South Essex \(Inc. Rochford, Castle Point and Basildon\) | Essex Design Guide](#)

<sup>45</sup> Can be viewed at: [Mapped flood information](#)

<sup>46</sup> Can be viewed at: [Risk of flooding from surface water – understanding and using the map - GOV.UK](#)



5.6.34 A Six Point Plan<sup>47</sup> was produced for Canvey Island in November 2015, but it is understood that some but not the entire Plan has been implemented due to lack of funding and concern about the viability of the some of the options (e.g. Canvey Lake as an attenuation basin). The Six Point Plan specifies the approach to be taken on Canvey Island for managing surface water flood risk, and consequently any impact on water quality arising from surface water flows.

5.6.35 Prittle Brook and Benfleet Hall Sewer pose the most significant fluvial risk with the southern part of South Benfleet and Hadleigh. The Benfleet Hall Sewer flows to the southwest of the Borough (on the mainland) and into East Haven Creek. Water is conveyed down the steep gradient until the water slows suddenly due to the change to a flat gradient. This area south of the playing fields and Benfleet Marsh is considered a washland and a designated flood storage area (Policy B9 – South Benfleet Playing Fields). The outflow of water is restricted by a tidal flap valve located at the confluence with Benfleet Creek. The Kersey Marsh Sewer and Hadleigh Marsh Sewer both rise in Hadleigh Marsh on the mainland and outfall to the Benfleet Creek.

#### Waste Water Management

5.6.36 The potential for adverse effects include those from combined sewer overflows during high rainfall events. These could, in turn, result in nutrient enrichment of water and potential lowering of dissolved oxygen as well as increased water velocities and levels for a distance downstream of the Water Recycling Centre outfall.

5.6.37 Increased discharges from wastewater treatment works due to development may adversely affect flood risk downstream. There are four Water Recycling Centres covering the Borough- i.e. Canvey (Thorney Bay), Benfleet, Rayleigh and Southend. They are controlled by the statutory undertaker, i.e. Environment Agency through the issuing and monitoring of discharge licenses.

5.6.38 The Water Recycling Centres (WRC) treat and transmit sewerage and wastewater and are the responsibility of the drainage undertaker, i.e. Anglian Water Services Ltd. These accommodate both foul and surface water. During times of normal water flow surface water drains into the sewage water treatment system. During times of high water/ flooding the surface water drains into the network of dykes and creeks via outfalls and gravity sluices and eventually into the estuary itself, i.e. directly and indirectly into the SPA and Ramsar sites. Asset Management Plans (AMP) set out Anglian Water's view of what is needed to maintain its assets, improve services to customers, and manage its impact on the environment.

5.6.39 As set out in the Screening section above, Natural England has advised that "Prior to the next iteration of the Local Plan HRA (at Regulation 19), further checks will be necessary with Anglian Water and further evidence gathering will be required in order to clarify the

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<sup>47</sup> [canvey-island-6-point-plan.pdf](#)





relevant water treatment works for the growth proposed, the available headroom / capacity at those works and any water quality risks to the Essex coast sites. We forward to being consulted again on this matter at Regulation 19.”

5.6.40 The Reasoned Justification for Policy SD9 advises that Anglian Water has reviewed the sites identified in Local Plan and provided advice on the improvements needed within the Infrastructure Delivery Plan.

5.6.41 The Water Recycling Centres discharge into the Thames Estuary, or its tributaries. Canvey Island WRC discharges directly into the River Thames at a point approximately 2km upstream of Benfleet & Southend Marshes SPA/Ramsar site; the discharge point is also directly opposite Kent's section of the Thames Estuary & Marshes SPA & Ramsar site. Furthermore, Benfleet WRC discharges at a point approximately 3.5 km upstream of Management Unit 6 of Benfleet & Southend Marshes SSSI, SPA and Ramsar site.

5.6.42 The Natural England Designated Sites website Advice on Operations for Outfalls/ Intake pipes (maintenance/construction/usage) states that “Excessive nutrient and organic enrichment in the water column due to outfall discharge can result in reducing oxygen levels in surrounding habitats. The pressure is associated with sediment mobilisation and increased of suspended sediments as well as the deposition of organic matter. The pressure can result from a variety of activities including dredging, aquaculture, outflow, etc. The extent and nature of the changes will depend on the dynamic nature of the area, the temperature and the sediment type, making changes in many cases short lived and localised. (References available from: <https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9009171&SiteName=benfleet+and+southend+marshes&SiteNameDisplay=Benfleet+and+Southend+Marshes+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAAarea=>)

5.6.43 This is considered a low risk, but “the risk of this pressure will increase depending on the spatial/ temporal scale and intensity of the activity, the proximity of the activity to the feature (in space and time) and the sensitivity of the feature to the pressure. Cumulative and in-combination effects of activities may increase the risk further).

5.6.44 The South Essex Water Cycle Study from 2011 has not been updated. However, it advised that:

*“The most likely possible water quality effects that require consideration are:*

- *Increased total oxidized nitrogen and phosphorus, potential lowering of dissolved oxygen for a stretch and an increase in biological oxygen demand and nitrogen for a given distance; and*
- *Potential increase in velocity and levels, notable at lower to normal flows for a distance downstream as a result of the additional wastewater volumes entering the river.*



*While nutrient levels within the various Habitats sites covered by this WCS (Benfleet & Southend Marshes SPA & Ramsar, Thames Estuary & Marshes SPA & Ramsar, Crouch & Roach Estuaries SPA & Ramsar, Foulness SPA & Ramsar and Essex Estuaries SAC) are high, a combination of tidal energy, high sediment loading and erosion means that the hyper-nutrication tends not to result in the smothering macroalgal growth that is having an adverse effect upon other European Marine Sites. As a result, it is considered that these Habitats sites are considerably less vulnerable to adverse effects as a result of an increase in nutrients due to increased volume of effluent discharged from various south Essex wastewater treatment works, including, Canvey Island WwTW.”*

- 5.6.45 With respect to sediment regimes, the South Essex Outline Water Cycle Study advised that increased volumes of effluent being discharged to the River Thames, Crouch/Roach, Benfleet or Foulness may have an effect on local sediment regimes principally through increased erosion, thereby potentially damaging coastal habitats. However, it considered that this effect was likely to be locally restricted to the immediate vicinity of the relevant outfalls.
- 5.6.46 Anglian Water has reviewed the sites identified in the Castle Point Plan and provided advice on the improvements needed within the Infrastructure Delivery Plan.

### **Tidal Flooding**

- 5.6.47 The recommended policy in the Thames Estuary 2100 Plan (TE2100) for Hadleigh Marshes is to continue “maintaining flood defences at their current level, accepting that the likelihood and /or consequences of a flood will increase because of climate change”. Hadleigh Marshes is susceptible to coastal flooding and fluvial flooding from the local watercourses. The flood defences on Hadleigh Marsh and Two Tree Island contain contaminated material and so there is a potential contamination issue if they are not maintained. Therefore, the continued maintenance of these defences is needed to prevent contamination of the Estuary.
- 5.6.48 The TE2100 Plan also considers that longer-term remediation of this land would open up management options and provide great environmental benefits to this area. Measures may be needed to manage fluvial flood risk from the marsh drainage system and watercourses that drain into the marshes. This could consist of improvements to channels and outfalls as the needs arise.
- 5.6.49 The Canvey Island Southern Shoreline Revetment Project is currently ongoing which aims to maintain the existing high level of tidal flood risk protection by renewing and improving the revetment on the seaward face of the tidal defences as part of the Thames Estuary Asset Management (TEAM) 2100 Programme<sup>48</sup>. Sea wall enhancements are taking place along the southern edge of Canvey Island, along a 3km stretch between Thorney Bay and

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<sup>48</sup> <https://www.gov.uk/government/news/thames-estuary-asset-management-2100-programme-team2100>



the Island Yacht Club. It will protect the tidal defences against erosion and extend their useful life to 2070. More details and map can be found through the programme web link at the bottom of the page.

## Ports

- 5.6.50 With respect to Ports and Shipping, there is a risk of additional water pollution, both from increased shipping activity and also if there were to be a potential leak associated with the ship's cargo.
- 5.6.51 There are many possibilities for creating adverse effects as a result of port construction and operation use. A full summary of these can be viewed through the Natural England Designated Sites website in the Advice on Operations for Benfleet and Southend Marshes SPA<sup>49</sup>. Examples include changes to suspended sediments, increases in smothering and siltation rates, changes to water clarity due to changes in suspended solids, Synthetic compound contamination (incl. pesticides, antifoulants, pharmaceuticals) and introduction of other substances (solid, liquid or gas).

## **Policies / Allocations and Habitats Sites within Scope**

- 5.6.52 Policy C3: Canvey Port Facilities allows for further development of the ports but requires Compliance with policy ENV3. The Reasoned Justification acknowledges that there is potential for developments at the ports to impact on the natural environment and water quality. Any development which affects the seaward side of the defences is beyond the scope of the Castle Point L Plan as consents are the responsibility of the Marine Management Organisation.
- 5.6.53 The South Essex Water Cycle Study indicates that new development in the South Essex area is likely to impact on water quality owing to Essex being the driest county in England. This will require mitigation within new development. The study found that it would be preferable to ensure that water efficiency is achieved in new developments, and that Sustainable Drainage Systems (SUDS) are secured as part of new development proposals in order to minimise impacts on water quality. SuDS are a recognised surface water drainage solution designed to manage surface water runoff and mitigate the adverse effects of urban storm water runoff by reducing flood risk and controlling pollution.
- 5.6.54 In order to reduce storm discharges, the South Essex Water Cycle Study recommends that surface water from new development sites, including brownfield sites that are being redeveloped, should not drain to the foul/combined network but should be managed on site. This approach to wastewater management is supported by Anglian Water.

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<sup>49</sup> Advice on Operations for Benfleet and Southend Marshes SPA

<https://designatedsites.naturalengland.org.uk/Marine/FAPMatrix.aspx?SiteCode=UK9009171&SiteName=benfleet+and+southend+marshes&SiteNameDisplay=Benfleet+and+Southend+Marshes+SPA&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=>



5.6.55 The South Essex Surface Water Management Plan proposes measures including use of planning policies.

5.6.56 Where more than one development is located on the same watercourse that feeds into a Habitats site, the potential for in combination effects should also be considered, even where they are located at considerable distance away.

### **Use of Mitigation Measures**

5.6.57 There are a number of policies which provide embedded mitigation for Water Quality. In particular, these include the following:

- ENV3: Securing Nature Recovery and Biodiversity Net Gain
- SD3: Sustainable Urban Drainage Systems (SUDS)
- SD6: Pollution Control
- SD9: Water Supply and Waste Water

5.6.58 Some policies and / or Reasoned Justifications may already refer to the need to ensure that there will be no Adverse Effects on Site Integrity (AEOI).

5.6.59 The third column shows the recommendations for any additional mitigation that may be required to ensure there will be no Adverse Effects on Site Integrity (AEOI). These have subsequently also been included but are retained in the Table to demonstrate the changes that have been made during the Plan's development as an audit trail.

5.6.60 Policies ENV3 (Securing Nature Recovery and Biodiversity Net Gain); SD1 (Tidal Flood Risk Management); SD2 (Non-Tidal Flood Risk Management); SD3 (Sustainable Urban Drainage Systems (SUDS)) SD6 (Pollution Control) and SD7 (Water Supply and Waste Water) are crucial in helping to provide mitigation.

5.6.61 The Local Plan contains Policy SD2 (Non-Tidal Flood Risk Management) which is a specific policy seeking to deal with surface and fluvial water flooding issues. This refers to the need to use sequential tests<sup>50</sup> and the need for SuDS. In addition, the Local Plan also has a separate policy for Sustainable Urban Drainage Systems (SUDS) (Policy SD3) to help prevent surface water flooding.

5.6.62 Whilst each development site must offset its own increase in runoff, a strategic approach is provided, partially within the Reasoned Justification for Policy SD2, referring to the above-mentioned SFRA 2024; Integrated Urban Drainage modelling for Canvey and modelling by ECC and the EA. In addition, Canvey Lake (Policy C7) provides a large scale attenuation function, as does South Benfleet Playing Fields (SD1) and parts of Canvey Marshes.

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<sup>50</sup> [Flood risk and coastal change - GOV.UK](https://www.gov.uk/government/consultations/flood-risk-and-coastal-change)



- 5.6.63 Policy SD6 (Pollution Control) seeks to reduce pollution caused by developments. It includes use of Green Infrastructure and Sustainable Urban Drainage Systems. Construction Environment Management Plans are required for major developments.
- 5.6.64 Policy SD9 (Water Supply and Waste Water) aims to prevent pollution by ensuring that there is adequate capacity at water recycling centres. It seeks to achieve water efficiencies and to ensure that new developments do not overload Water Recycling Centres. In addition, source control mechanisms such as rainwater harvesting and grey water recycling are also required for new developments to restrict the volumes and rates of surface water runoff leaving a site.
- 5.6.65 Improvements to water quality can be achieved through the delivery of the Asset Management Plans of the water supply company and the drainage undertakers, through the use of Sustainable Drainage Systems (SuDS) and ensuring that Water Recycling Centres have the capacity to accommodate growth.
- 5.6.66 The Castle Point Borough Infrastructure Delivery Plan will incorporate requirements for wastewater management, and developer contributions to Anglian Water will need to be secured at application stage.
- 5.6.67 The Six Point Plan should be implemented through the Asset Management Plans of drainage undertakers, and the impact of development on water quality must be managed to ensure there is no harm to the integrity of the nearby Benfleet and Southend Marshes SPA and Ramsar site or the Thames Estuary and Marshes SPA and Ramsar site.
- 5.6.68 The Anglian Water Asset Management Plans (AMPs) should be used to deliver relevant sections of the Infrastructure Delivery Plan –and therefore elements of the Six-Point Plan - aimed at increasing capacity and avoiding water pollution to SPAs and Ramsar sites.
- 5.6.69 The requirement for all new developments to incorporate water management measures to reduce surface water run-off or adverse impact on water quality is embedded within the Local Plan through Policy SD3, the principal method being through the use of Sustainable Drainage Systems (SuDS).
- 5.6.70 With respect to the construction period strict procedures must be maintained to minimise effects as much as possible. A Construction Environmental Management Plan (CEMP) for major developments is required under Policy SD6 delivers specific mitigation regarding water to avoid adverse construction impacts to the Habitats sites. However, a CEMP may be required for smaller developments, where they are near to the Habitats sites, particularly where they are near to water courses.
- 5.6.71 No construction or demolition materials must be permitted to enter any watercourse (even when dry). It should be highlighted that Pollution Prevention for Businesses should be strictly adhered to at all times.
- 5.6.72 Mitigation measures are considered in Table 27: Policies and Site Allocations which could adversely affect the Water Quality of Habitats sites below. This Table considers all policies



screened in respect to Water Quality and assesses the mitigation that is already embedded in the Local Plan and the shows the HRA's recommended additional measures.

5.6.73 It is recommended that any development of the ports will need to be accompanied by a project- level HRA. It must be ensured that there adequate terrestrial and marine cross-border collaboration with the MMO to prevent issues being overlooked because they fall between planning responsibilities.

### **Monitoring**

5.6.74 This will be a requirement for Anglian Water, Essex County Council and Castle Point Borough Council.



**Table 27: Policies and Site Allocations which might adversely affect Habitats sites through Water Quality and proposed additional mitigation**

| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
| <p><b>Policy SP3- Meeting Development Needs</b></p>                       | <p>Policy sets out development needs and provision for housing supply and employment and includes principle of master planning for West Canvey and other sites. Includes green belt and grey belt. It sets out housing supply numbers for Specific Site Allocations and windfall developments.</p> <p>Outcome is uncertain and depends on the nature, scale and locations of proposals.</p> <p>No location identified in policy for windfall sites and outcome is therefore uncertain. Site Allocations are addressed individually with this HRA.</p> <p>The Reasoned Justification includes “A Habitats Regulations Assessment will be required for windfall sites on Canvey Island at application stage in order to demonstrate no adverse effects on site integrity”.</p> <p>Policies SP3, ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> | <p>. None.</p>   |
| <p>Policy C1 - Canvey Town Centre</p>                                     | <p>Regeneration and investment into Canvey Town Centre will be delivered via a new Canvey Town Centre Master Plan with additional plans and strategies, which are a consequence of this Plan. Includes of minimum 200 homes and new commercial floorspace.</p>  |  |





| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
|   | <p>Located close to drains feeding into Benfleet and Southend Marshes SPA and Ramsar and Canvey Lake. This is a LoWS (The Lake, Canvey). It is the largest reedbed in the Borough and the largest body of open water in Castle Point.</p> <p>Potential for water quality impacts alone during construction and use stages.</p> <p>The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effect on site integrity".</p> <p>Policies C1, ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> |  |
| Policy C2 - Canvey Seafront Entertainment Area                            | <p>A masterplan will be prepared for the Canvey Seafront Entertainment area. Commercial and leisure development proposals to support the tourist industry. Masterplan will reflect the Riverside Strategy.</p> <p>Just over 700 m from SPA but adjacent to River Thames, behind the sea walls.</p> <p>The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>                                | None.  |





| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy C3 - Canvey Port Facilities  | <p>The ports are situated at the mouth of Holehaven Creek. The scale of any potential future redevelopment is not known.</p> <p>These sites contain hazardous waste and use both the River and roads for transportation.</p> <p>The ports are close to Holehaven Creek (FLL) and c.1.3km from Thames Estuary and Marshes SPA and Ramsar and at least 3.5km from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Potential for <i>significant</i> water quality impacts alone during construction and use stages, including during transportation to and from the ports.</p> <p>Reasoned Justification includes that it will be necessary to avoid any adverse effects on the integrity.</p> <p>Requires compliance with ENV3.</p> <p>Embedded mitigation is sufficient.</p> | None.  |
| Policy C4 West Canvey   | <p>Located south of Northwick Road.</p> <p>The outcome of Policy is uncertain due to the requirement of subsequent masterplan to include residential, community, commercial and industrial uses. 500-1000 homes.</p> <p>Located close to Holehaven Creek SSSI (c.400 metres) and opposite the Thames Estuary and Marshes SPA where it is located on south side of River</p>  | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
|   | <p>Thames. Some of the site is already developed. The western section has planning permission which has not been implemented.</p> <p>Drains carry water straight into Holehaven Creek.</p> <p>Potential for water quality impacts alone during construction and use stages.</p> <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p>  |  |
| Policy C5- Improved Access to and around Canvey Island                    | <p>Details currently unknown and will be subject to a feasibility study. Outcome is uncertain and depends on the nature, scale and locations of proposals.</p> <p>However, it provides for improved access to, from and within Canvey Island could potentially affect water quality. More detail is set out in Policy T2.</p> <p>Potential for water quality impacts alone during construction and use stages.</p> <p>Mitigation is provided within Policy C5 by requiring a HRA for improvements to access to Canvey Island.</p> <p>The Policy and Reasoned Justification require that any feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no adverse effect on integrity to internationally protected sites.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p> | None.  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy C6 - The South Canvey Green Lung                                   | <p>Discourages development but would allow solar arrays. In this circumstance Part 3 of C6 specifies that a HRA would be required to demonstrate no AEOI.</p> <p>Embedded mitigation is sufficient.</p> <p>Policies ENV3, SD3, SD6 provide suitable embedded mitigation measures.</p>  | None   |
| Policy C7- Canvey Lake  | <p>C.680m at closest point to Benfleet and Southend Marshes SPA and Ramsar with hydrological connectivity as drains from the Lake feed directly into these Habitats sites.</p> <p>Increased capacity of the Lake for flood water storage attenuation and improvement of water quality.</p> <p>Aims to be a positive policy to improve water quality.</p> <p>Embedded mitigation is sufficient.</p> | None   |
| Policy C8 Residential Park Home Sites, Canvey Island                      | <p>These are located close to the coast, either the northern side near Benfleet and Southend Marshes SPA and Ramsar or southern side near to River Thames.</p> <p>C8 specifically requires “compliance with all relevant policies in this Plan, including requirements related to the Habitats Regulations.”</p> <p>Embedded mitigation is sufficient.</p>   | None   |
| Policy C9 - Land at the Point, Canvey Island                              | <p>Located c.135m from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Potential for water quality impacts alone during construction and use stages.</p>  | Additional text has been included to require avoidance of any AEOI.          |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI)   |
|---|---|--|
|   | <p>Embedded mitigation through ENV3 is not sufficient.</p> <p>Part d) of C9 now states: "Make provision for open space on-site to minimise any impact on Habitats site;</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites".</p> | <p>However, the preceding text in the Reasoned Justification only relates to recreational disturbance effects. Other effects may also be possible due to the close proximity with Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Further adjustment to text is recommended.</p> <p>Amend text to: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites, including from construction impacts as well as occupational impacts."</p> |
| Policy C10 - Other Housing Site Allocations on Canvey Island              | <p>Outcome is uncertain and depends on the nature, scale and locations of proposals.</p> <p>There are two locations- i.e. C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road -are located on the southern side of Canvey Island just behind the sea wall, and less than 1km from Benfleet and Southend Marshes SPA and Ramsar.</p>                       | None..   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
|   | <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals at C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land".</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> |  |
| Policy B1 – South Benfleet Town Centre                                    | <p>Watercourses drain into East Haven Creek near to Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Potential for water quality impacts alone during construction and use stages.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |
| Policy B2 – Tarpots Town Centre   | <p>Drainage is towards Crouch and Roach SPA and Ramsar. The distance to the Habitats sites is more than 12 km through predominantly urban areas.</p> <p>Policies SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |
| Policy B3 – Former Furniture Kingdom site                                 | <p>Drainage is towards Crouch and Roach SPA and Ramsar. The distance to the Habitats sites is more than 12 km through predominantly urban areas.</p> <p>Policies SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| <p>Policy B4 - South Benfleet Leisure Quarter</p>                         | <p>Watercourses drain into East Haven Creek 1km upstream from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Potential for water quality impacts alone or in combination during construction and use stages.</p> <p>Possibility for cumulative effects with B7.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals at B7A: Richmond Avenue Car Park to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> | <p>None</p>  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy B7 – Other Housing Site Allocations in enfleet                     | <p>B7A: Richmond Avenue Car Park is situated adjacent to South Benfleet playing fields.</p> <p>A water course passes through this and straight into the East Haven Creek 1km upstream from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Potential for water quality impacts alone or in combination during construction and use stages.</p> <p>Possibility for cumulative effects with B4. The Reasoned Justification now states: “A Habitats Regulations Assessment will be required of development proposals at B7A: Richmond Avenue Car Park to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p> | None.  |
| Policy B8 – Manor Trading Estate  | <p>A master planned approach to the regeneration and renewal of Manor Trading Estate.</p> <p>Drainage is towards Crouch and Roach SPA and Ramsar. The distance to the Habitats sites is more than 12 km through predominantly urban areas.</p> <p>Policies SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>   | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy B9 – South Benfleet Playing Fields                                 | <p>Site located less than 200 metres from Benfleet and Southend Marshes SPA and Ramsar. Watercourses pass through the playing fields and drain into East Haven Creek near to Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Open space acts as flood storage attenuation and B8 proposes to increase this, which should help to prevent reduction to water quality after rainfall.</p> <p>Buildings on site are to be redeveloped.</p> <p>Policies SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> | None   |
| Policy Had1 – Hadleigh Town Centre  | <p>Regeneration and investment into existing Hadleigh Town Centre via a new Hadleigh Town Centre Master Plan, along the A13.</p> <p>Drains towards Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>   | None   |
| Policy Had3 – Hadleigh Clinic   | <p>Within urban area of Hadleigh town, adjacent to A13. Master Plan required.</p> <p>Drains towards Benfleet and Southend Marshes SPA and Ramsar.</p> <p>C860m at closest point, but the line of fall for drainage appears to be further away.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>   | None   |





| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
| Policy Thun2 - Kiln Rd Campus   | <p>Master planned redevelopment including improved community facilities, a new local shopping parade and at least 617 new homes.</p> <p>Drains towards Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".</p> | None   |
| Policy Thun 3 - Other Site Allocations in Thundersley                     | <p>Drains towards Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>   | None   |
| Policy Hou4 – Specialist Housing Requirements                             | <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy Hou5 - Park Homes  | <p>Criteria based policy regarding provision of park homes. Some of these are near to SPA.</p> <p>Nearly 2,000 park homes located across three sites on Canvey (Kings Park, Sandy Bay and Holehaven Caravan park) and one site in Benfleet (Kingsleigh Park).</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> <p>Mitigation is also embedded within Policy C8 (Residential Park Home Sites, Canvey Island) is satisfactory, as it requires compliance with all relevant policies, including requirements related to the Habitats Regulations.</p> | None   |
| Policy Hou6 - Gypsy and Traveller Provision                               | <p>Some sites are identified. The outcome of any others is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>   | None   |
| Policy Development E1-on  | <p>The outcome of the policy at this stage is uncertain. Encourages employment-related development on four sites (West Canvey, Canvey town centre, Hadleigh town centre and Manor Trading Estate), two of which are on Canvey Island and</p>   | None.  |



| Policy/ Site Allocation within scope for issues relating to Water Quality      | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|--|--|--|
| Strategic Employment Land  | <p>close to Habitats sites or FLL, ie. SEL3 - Charfleets Industrial Estate &amp; Roscommon Way, Canvey and SEL4 - South Canvey Port Facilities.</p> <p>The Reasoned Justification now states; "A Habitats Regulations Assessment will be required of any new development at SEL4 (South Canvey Port Facilities), West Canvey and Canvey Town Centre to avoid any adverse effects on integrity of nearby Habitats sites or functionally linked land".</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> |  |
| Policy E2- Development of New Employment Floorspace in and around Town Centres | <p>Encourages employment-related development near to the Borough's existing town centres.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |
| Policy E4 – Culture and Tourism  | <p>Policy encourages development to support tourism. Locations uncertain, but include Canvey seafront; Hadleigh Castle and Country Park and walking/hiking opportunities through and to Hadleigh and Thundersley.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
| Policy TC1 - Town Centres   | <p>Policy supports development in the existing urban town centres, i.e. Canvey Island, Hadleigh, South Benfleet and Tarpots.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None   |
| Policy TC3 - Retail Parks and Out of Centre Locations                     | <p>Development and regeneration of two Out of Centre Retail Parks, one of which is located at West Canvey. Regeneration is supported.</p> <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Policies C4, ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> | None   |
| Policy GB1 – Development affecting the Green Belt                         | <p>Strategic policy for non-housing applications within GB. Outcome is uncertain and depends on the location.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures, except where additional mitigation is recommended through GB Site Allocation policies.</p>              | None   |
| Policy GB2 – Previously Developed Land in the Green Belt                  | <p>Strategic policy and outcome is uncertain and depends on the location.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures, except where additional mitigation is recommended through GB Site Allocation policies.</p>  | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
| Policy ENV2 – Coastal & Riverside Strategy                                | <p>Policy supports a cross-boundary Coastal &amp; Riverside Strategy intended to be created jointly with other organisations (including Environment Agency, ECC Lead Local Flood Authority, neighbouring authorities and local community) and separately from this Plan.</p> <p>It would use the three policy areas fall that within Castle Point, i.e. the Bowers Marshes policy unit, the Canvey Island policy unit and the Hadleigh Marshes policy unit, as set out in the Thames Estuary 2100 Plan.</p> <p>It also overlaps significantly with the Central Marshlands component of the South Essex Estuary Park initiative.</p> <p>Potential for AEOI due to close proximity to Benfleet and Southend Marshes SPA and FLL. Outcome is uncertain and depends on the nature, scale and locations of proposals in Strategy.</p> <p>This is a separate Strategy (from the Plan) but will be a material planning consideration when determining applications.</p> <p>This HRA recommended that the Strategy would be subject to its own HRA. The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity. The Riverside Strategy must be subject to a Habitats Regulations Assessment in order to demonstrate no adverse effects on site integrity. This will need to take into account the Castle Point Plan when considering in combination effects.”</p> | None.  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
| Policy Infra4 – Open Spaces   | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>They may include flood attenuation which could provide benefits for water quality.</p> <p>Development or regeneration of facilities may create AEOI, particularly during construction period.</p> <p>The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage for any facility near to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (as functionally linked land), in order to demonstrate no adverse effects on site integrity”.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> <p>The need for an HRA should be highlighted in Policy for any facility near to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (FLL).</p> | None.  |
| Policy Infra6 - Communications Infrastructure                             | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>   | None   |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy T1 - Transport Strategy  | <p>Outcome is uncertain and depends on the nature, scale and location.</p> <p>It aims to “secure transport networks in Castle Point that deliver net zero carbon emissions by 2050, and ensure local air quality is maintained at acceptable levels”.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures for the level of information available.</p>   | None.  |
| Policy T2 - Highway Improvements  | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>T2 provides for new roads and land is safeguarded for new access at West Canvey.</p> <p>Significant potential for AEOI during construction period and during use.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> <p>Reasoned Justification refers to Policies C5 and C4.</p> <p>T2 now states: “Any improvements to accessing Canvey Island must avoid any adverse effects on the integrity of Habitats sites”.</p> <p>The Reasoned Justification now states: “.. further studies are required to explore this further. Any improvements to the access to Canvey Island must avoid any</p> | None.  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
|   | adverse effects on the integrity of Habitats Sites. A Habitats Regulations Assessment will be required to demonstrate no adverse effects on-site integrity".  |  |
| Policy T3 - Active Travel Improvements                                    | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p> | None.  |
| Policy T4 - Improvements to Public Transport Infrastructure and Services  | <p>Outcome is uncertain and depends on the nature, scale and location.</p> <p>Policies ENV3, SD3, SD6 and SD9 provide suitable embedded mitigation measures.</p>  | None.  |
| Policy SD1 - Tidal Flood Risk Management                                  | <p>The issue of tidal flooding is explored in the body text above. It is a significant issue for Canvey Island.</p> <p>There are areas of low-lying arable land immediately adjacent to Benfleet and Southend Marshes SPA and Ramsar boundary (and outside of it), to the east of Hadleigh Marshes and just inside of the seawall.</p>                              | None.  |





| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
|   | <p>Potential for AEOI.</p> <p>The Thames Estuary 2100 Plan provides strategic measures. It is proposed to allow Benfleet Marshes to flood (by not improving the sea walls). This would result in likely loss of Habitats sites terrestrial habitat.</p> <p>In addition, strengthening the sea walls around Canvey may involve loss of intertidal habitat through coastal squeeze.</p> <p>Appropriate compensation will need to be sought to ensure that there will be no AEOI of Habitats sites.</p> <p>Policy ENV3 provides suitable mitigation measures.</p> <p>The Reasoned Justification has been strengthened to explicitly state that Habitats sites should not be adversely affected. It now states: "Any development within Hadleigh Marshes should avoid causing adverse effects on sites' integrity or compensation will be required if imperative reasons of overriding public interest agreed by the Secretary of State at application stage. This will need to be demonstrated through a project level Habitats Regulations Assessment."</p> <p>and</p> <p>"Any works to retain or enhance sea walls, or within the 19m safeguarded buffer zone, should avoid causing adverse effects on site integrity. This will need to be demonstrated through a project level HRA."</p> |  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy SD2 - Non-Tidal Flood Risk Management                              | <p>This Policy aims to help prevent non-tidal flooding.</p> <p>The issue of non-tidal flooding is explored in the text above. It is a significant issue for Canvey Island and to some other parts of the Borough to a greater or lesser extent.</p> <p>Sufficient strategic measures are provided in the South Essex Catchment Flood Management Plan; South Essex Strategic Flood Risk Assessment, Canvey Island Six Point Plan, integrated urban drainage modelling (IUD).</p> <p>The Reasoned Justification now states: “All developments on Canvey Island will need to avoid any adverse effects on site integrity. A Habitats Regulations Assessment will be required at application stage to demonstrate no adverse effects on site integrity”.</p> <p>Measures are provided in the Plan through various measures in SD2, e.g. through required use of the Sequential and Exception Tests; as well as other parts, including encouragement of flood attenuation on Open Spaces (Infra4); improvements to Canvey Lake (C7); South Benfleet Playing Fields (SD1) and Sustainable Urban Drainage Systems (SUDS) (SD3).</p> | None.  |
| Policy SD3 - Sustainable Urban Drainage Systems (SUDS)                    | <p>Policy aims to ensure surface water is managed more effectively through SuDS.</p> <p>Policy provides suitable embedded mitigation measures.</p>   |  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|--|--|
| Policy SD6 - Pollution Control  | <p>Policy seeks to reduce pollution caused by development proposals. Policy includes measures to avoid or reduce harmful effects on the environment resulting from water and air pollution, noise and disturbance, and includes the requirement for no “significant adverse effect upon the environment”.</p> <p>It includes potential embedded mitigation measures in the form of a Construction Environment Management Plan (CEMP) for major applications which could provide mitigation for Habitats sites.</p> <p>This HRA is referred to in the Reasoned Justification, where it states that: “Improvements to water quality however can be achieved through the delivery of the Asset Management Plans of the water supply company and the drainage undertakers, through the use of Sustainable Drainage Systems (SuDS) and ensuring that Water Recycling Centres have the capacity to accommodate growth.”</p> <p>The Reasoned Justification also highlights the importance of the Canvey Island Six Point Plan being implemented through the Asset Management Plans of drainage undertakers, and that the impact of development on water quality is managed to avoid AEOI.</p> <p>Reasoned Justification now amended to include “...the impact of development on water quality is managed to <u>ensure that there is no adverse effect to the integrity...</u>”.</p> <p>Policy provides suitable embedded mitigation measures.</p> | None.  |



| Policy/ Site Allocation within scope for issues relating to Water Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity (AEOI) |
|---|---|--|
| Policy SD9 – Water Supply and Waste Water                                 | <p>This issue is explored in the text above. Policy seeks to address water shortages and water quantity and quality, in line with the Water Strategy for Essex and <u>Environmental Improvement Plan</u>.</p> <p>Policy includes measures to avoid or reduce harmful effects on the environment resulting from water pollution.</p> <p>It includes potential mitigation measures e.g. by aiming to ensure that there is adequate capacity at water recycling centres. Use of water efficiency improvements to new homes, use of SuDS.</p> | None   |



## Re-applying the Integrity Test

- 5.6.75 The Local Plan has incorporated the recommendations of this HRA. Water quality issues in relation to this HRA depend on the implementation of a variety of measures prior to further development, particularly in the Borough's low-lying areas on Canvey Island and South Benfleet and Hadleigh Marshes. It also relies on a number of organisations and individual riparian landowners to implement their respective responsibilities with regard to maintenance of the drainage systems. Assuming that these are fully implemented, any residual effects would depend on the length and severity of an inland flooding incident.
- 5.6.76 Adverse impacts upon Water quality can be achieved through the delivery of the Asset Management Plans of the water supply company and the drainage undertakers, through the use of Sustainable Drainage Systems (SuDS) and ensuring that Water Recycling Centres have the capacity to accommodate growth. Should this not be possible, the safeguards described above should ensure that development does not proceed.
- 5.6.77 In light of the mitigation available, it is therefore concluded that adverse effects on integrity can be ruled out in relation to the potential for the Local Plan proposals to result in reduced water quality on Habitats sites alone.

## 5.7 Water Quantity

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- 5.7.1 This section of the report considers the potential for adverse effects to the site integrity of Habitats sites through changes in water quantity as a result of proposed policies and Site Allocations.
- 5.7.2 The following Table 28 lists the Habitats sites that were assessed at Screening Stage as having the potential for Likely Significant Effects as a result of water quantity issues, before taking mitigation into account.
- 5.7.3 An assessment of the key vulnerabilities contained within the Site Improvement Plans for the Habitats sites within the scope of the HRA (Appendix 2) and online Natural England advice on the Designated Sites website from identified that water quantity was not an 'attribute' listed as affecting site integrity. However, any policies which have been highlighted as having a Likely Significant Effect to water quantity are still considered within the Appropriate Assessment because any significant changes to hydrological regime may result in adverse effects to the Habitats sites scoped in

**Table 28: Habitats Sites which could be affected by impacts by Water Quantity resulting from the Local Plan**

| Policy/ Site Allocation within scope for issues relating to Water Quantity | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| Policy SD2 - Non-Tidal Flood Risk Management                               | ✓  | ✓   | Yes   |
| Policy SD9 – Water Supply and Waste Water                                  | ✓  | ✓   | Yes   |

- 5.7.4 Changes in source, depth, duration, frequency, magnitude and timing of water supply or flow can have important implications for some waterbirds. Such changes may affect the quality and suitability of habitats used by birds for drinking, preening, feeding or roosting.
- 5.7.5 The 'Background information and geography' section of the Natural England Conservation Advice for Marine Protected Areas Benfleet and Southend Marshes SPA states that, "much of Benfleet and Southend Marshes SPA is below national sea level (Environment Agency and WFD, 2012) and it is made up of several intertidal, subtidal and terrestrial habitat types that birds rely upon for loafing, roosting and foraging. In many locations the presence of a seawall separates the terrestrial parts of the site (such as freshwater and coastal grazing marsh) from the intertidal and marine zones (mixed and coarse sediments, saltmarsh, sand and mud flats, shell banks and seagrass beds)"<sup>51</sup>. Benfleet and Southend Marshes Ramsar site includes Freshwater marshes / pools: permanent, Rivers / streams / creeks: permanent and Coastal brackish / saline lagoons. The ponds and dykes exhibit a transition between fresh and brackish water and support a wide range of plant and animal species.
- 5.7.6 Thus, the freshwater and coastal grazing marsh areas of the SPA are reliant on the 'right' water levels to support the habitat. Increased development without sufficient control processes in place may affect water levels.
- 5.7.7 The terrestrial areas of Benfleet and Southend Marshes SPA are located to the south of Hadleigh Country Park where there is relatively little development. There are no known terrestrial areas of Benfleet and Southend Marshes SPA on Canvey Island.
- 5.7.8 Water Depth is included as an attribute for Thames Estuary and Marshes SPA Supplementary Advice with respect to Avocet, Black-tailed Godwit and Redshank. The target for Black-tailed Godwits is 'Maintain the availability and area of standing water of appropriate depth and extent.' This species is known to require extensive areas of water in which to feed. Birds are visual predators, with some having the ability to dive or to feed from the surface. As they will rely on detecting their prey within the water to hunt, the depth of water at critical times of year may be paramount for successful feeding and therefore their fitness and survival. This target relates specifically to coastal lagoon habitats.
- 5.7.9 Holehaven Creek SSSI (FLL for Thames Estuary and Marshes SPA) is predominantly on the seaward side of the sea wall and contains intertidal mudflats and saltmarsh. However, it is surrounded by grazing marsh which drain into the Creek and are reliant on the right water levels.
- 5.7.10 The Benfleet and Southend Marshes SPA Supplementary Advice target for the Supporting habitat of the non-breeding Waterbird assemblage is: 'quality of supporting non-breeding habitat' - ensure the habitat remains suitable for when the feature is present. It advises that,

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<sup>51</sup> Marine site detail

due to the large number of species and natural fluctuations in the overall composition of an assemblage, it is not practical to provide specific targets relating to each supporting habitat relevant to the assemblage. Generally speaking, the specific attributes of each supporting habitat may include vegetation characteristics and structure, water depth, food availability, connectivity between nesting, roosting and feeding areas both within and outside the SPA.

5.7.11 This site has previously suffered from a lack of freshwater input due to low rainfall; CEFAS published a report in 2012 that concluded the freshwater inputs are very minor in the volumes they discharged. Three small inputs were identified in the Southend shoreline, as well as three surface water outfalls via sluice on the south shore of Canvey Island; there are also likely to be some minor freshwater inputs into Benfleet Creek from the Hadleigh foothills (Centre for Environment Fisheries & Aquaculture (Cefas), 2012).

5.7.12 The target has been set due to a lack of evidence that the feature is being impacted by any anthropogenic activities.

## **Policies / Allocations and Habitats Sites within Scope**

5.7.13 Policy SD2: Non-Tidal Flood Risk Management aims to help prevent non-tidal flooding. The issue of non-tidal flooding is explored in more detail in the Water Quality section above. It is a significant issue for Canvey Island and to some other parts of the Borough. Canvey Island does not contain terrestrial habitat of Benfleet and Southend Marshes SPA, although it does contain water reliant Functionally Linked Land for Thames Estuary and Marshes SPA.

5.7.14 Strategic measures are provided in the South Essex Catchment Flood Management Plan; South Essex Strategic Flood Risk Assessment, Canvey Island Six Point Plan and integrated urban drainage modelling (IUD).

5.7.15 Measures are provided in the Plan through Policy SD2, e.g. through required use of the Sequential and Exception Tests; encouragement of flood attenuation on Open Spaces (Infra4); and Water Supply and Waste Water (SD7).

5.7.16 The Reasoned Justification for SD2 explains that, "The surface water flood risk across the Borough, shown on the ECC Interactive Flood and Water Management Map, excluding Canvey Island, is driven predominantly by topography relating to watercourse channels of Benfleet Creek, Prittle Brook and tributaries. Localised flooding is attributed in most cases to the steep westward sloping topography from an area of high elevation running through the mainland part of the Borough, local topographic depressions, insufficient capacity in ordinary watercourse and culverted systems, and obstructions in the flow of surface water.

5.7.17 Policy SD9: Water Supply and Waste Water aims to reduce use of mains water to help retain more water. It seeks to achieve water efficiencies and to ensure that new developments do not overload Water Recycling Centres. In addition, source control



mechanisms such as rainwater harvesting and grey water recycling are also required for new developments to restrict the volumes and rates of surface water runoff leaving a site.

## **Use of Mitigation Measures**

5.7.18 Mitigation measures are set out in Table 29 below for the two policies screened in, including the mitigation that is already embedded in the Local Plan with respect to Water Quantity.

5.7.19 There are a number of policies which provide embedded mitigation. In particular, these include the following:

- ENV3: Securing Nature Recovery and Biodiversity Net Gain
- SD9: Water Supply and Waste Water

5.7.20 Details in Policy SD2: Non-Tidal Flood Risk Management and the Reasoned Justification are sufficient to avoid AEOI of Benfleet and Southend Marshes SPA.

5.7.21 Policy SD9: Water Supply and Waste Water provides embedded mitigation.



**Table 29: Policies and Site Allocations which might adversely affect Habitats sites through Water Quantity and proposed additional mitigation**

| Policy/ Site Allocation within scope for issues relating to Water Quantity | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy SD2 - Non-Tidal Flood Risk Management                               | <p>This Policy aims to help prevent non-tidal flooding.</p> <p>The issue of non-tidal flooding is explored in the text above. It is a significant issue for Canvey Island and to some other parts of the Borough. Canvey Island does not contain terrestrial habitat of Benfleet and Southend Marshes SPA.</p> <p>Sufficient strategic measures are provided in the South Essex Catchment Flood Management Plan; South Essex Strategic Flood Risk Assessment, Canvey Island Six Point Plan, integrated urban drainage modelling (IUD).</p> <p>The Reasoned Justification now states: “All developments on Canvey Island will need to avoid any adverse effects on site integrity. A Habitats Regulations Assessment will be required at application stage to demonstrate no adverse effects on site integrity”.</p> <p>Measures are provided in the Plan through various measures in SD2, e.g. through required use of the Sequential and Exception Tests; as well as Water Supply and Waste Water (SD9).</p> | None  |



| Policy/ Site Allocation within scope for issues relating to Water Quantity | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
| Policy SD9 – Water Supply and Waste Water                                  | <p>Policy seeks to address water shortages and water quantity and quality, in line with the Water Strategy for Essex and <u>Environmental Improvement Plan</u>.</p> <p>It includes potential mitigation measures e.g. by aiming to ensure that there is adequate capacity at water recycling centres. Use of water efficiency improvements to new homes, use of SuDS.</p> | None  |



## Re-applying the Integrity Test

5.7.22 In light of the mitigation available it is therefore concluded that adverse effects on integrity can be ruled out in relation to the potential for the Local Plan proposals to result in changes to water quantity on Habitats sites, alone.

## 5.8 Air Quality

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5.8.1 This section of the report considers the potential for adverse effects to the site integrity of Habitats sites through change in air quality as a result of proposed policies and site allocations.

### Policies / Allocations and Habitats Sites within Scope

5.8.2 At HRA screening stage, the Benfleet and Southend Marshes SPA and Ramsar site and Thames Estuary and Marshes SPA and Ramsar site were listed as having the potential for Likely Significant Effects as a result of changes to Air Quality.

5.8.3 Their Qualifying Features, Conservation Objectives and Key Vulnerabilities / Factors Affecting Site Integrity of the Benfleet and Southend Marshes SPA and Thames Estuary & Marshes SPA have been set out in Appendix 2 of this report.

5.8.4 Table 30 below sets out the policies and Allocated Sites which were screened in and therefore might result in effects on the Habitats sites through changes to Air Quality.

**Table 30: Habitats Sites which might be affected by impacts by Air Quality resulting from the Local Plan**

| Policy/ Site Allocation within scope for issues relating to Air Quality | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|---|--|---|---|
| Policy SP3 - Meeting Development Needs                                  | ✓  | x   | Yes   |
| Policy C1 - Canvey Town Centre  | ✓  | x   | Yes   |
| Policy C3 - Canvey Port Facilities                                      | ✓  | ✓   | Yes   |
| Policy C4 West Canvey   | ✓  | x   | Yes   |
| Policy C5- Improved Access to and around Canvey Island                  | ✓  | x   | Yes   |
| Policy C9 - Land at the Point, Canvey Island                            | ✓  | x   | Yes   |
| Policy C10 - Other Housing Site Allocations on Canvey Island            | ✓  | x   | Yes   |
| Policy Hou5 - Park Homes  | ✓  | x   | Yes   |
| Policy Hou6 - Gypsy and Traveller Provision                             | ✓  | x   | Yes   |
| Policy E1- Development on Strategic Employment Land                     | x  | x   | Yes   |
| Policy TC1 - Town Centres   | ✓  | x   | Yes   |



| Policy/ Site Allocation within scope for issues relating to Air Quality  | Benfleet and Southend Marshes SPA and Ramsar | Thames Estuary and Marshes Special Protection Area and Ramsar | Potential Impacts to Habitats Sites, depending on location of proposals |
|--|--|---|---|
| Policy TC3 - Retail Parks and Out of Centre Locations                    | ✓  | x   | Yes   |
| Policy GB2 – Previously Developed Land in the Green Belt                 | ✓  | x   | Yes   |
| Policy T1 - Transport Strategy   | ✓  | x   | Yes   |
| Policy T2 - Highway Improvements   | ✓  | x   | Yes   |
| Policy T3 - Active Travel Improvements                                   | ✓  | x   | Yes   |
| Policy T4 - Improvements to Public Transport Infrastructure and Services | ✓  | x   | Yes   |
| Policy SD1 - Tidal Flood Risk Management                                 | ✓  | x   | Yes   |
| Policy SD6 - Pollution Control   | ✓  | x   | Yes   |



- 5.8.5 Reduction in Air Quality can be caused by changes in atmospheric pollution levels, e.g. due to increased traffic.
- 5.8.6 The Natural England guidance (June 2018) entitled 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations'<sup>52</sup> outlines the following direct and in-direct effects from air pollution upon qualifying features:
- a) The direct effects which arise when a pollutant which is dispersed in the air is taken up by vegetation (through pores on the surface called stomata). Pollutants taken up by vegetation can cause adverse impacts to plant health and viability. The relevant assessment benchmark for pollutant concentrations 'in the air' is referred to as a critical level expressed in units of  $\mu\text{g}/\text{m}^3$  (micrograms per cubic metre).*
- b) There are indirect effects which arise when the pollutant settles onto the ground (referred to as 'deposition') causing nutrient enrichment of the soil ('eutrophication') or changes to the soil pH ('acidification'). These effects can decrease the ability of a plant to compete with other plants and can hinder the inherent capacity for self-repair and self-renewal under natural conditions. In other words, nitrogen acts as a fertiliser for plants that can thrive on high nitrogen levels and can dominate plant communities. The speed with which a given pollutant settles (or deposits) after it is released into the atmosphere is different for each pollutant, and is influenced by how dense (or heavy) the particles are. Some pollutants travel a long distance before deposition occurs whilst others will settle much closer to their source. Wind speed and direction will also have an influence on deposition properties.*
- 5.8.7 The relevant assessment benchmark for pollutant concentrations 'in the air' is referred to as a critical level expressed in units of  $\mu\text{g}/\text{m}^3$  (micrograms per cubic metre). Whereas the relevant assessment benchmark for pollutant levels which settle from the air onto a surface (or deposit) is referred to as a critical load. This is often expressed in units of kilograms of nitrogen per hectare per year ( $\text{kgN}/\text{ha}/\text{yr}$ ) for nitrogen deposition.
- 5.8.8 Where the change in concentration/deposition is predicted to be 1% of the identified critical level or critical load threshold or more, either alone or in combination, there is a risk that the relevant species and habitat could be affected. However, these thresholds are only tool to indicate when further ecological assessment and/or detailed air quality monitoring is required to determine the extent of impacts. Therefore, further ecological interpretation is essential to confirm the extent of likely impacts upon a Habitats site when the critical level or critical load has been exceeded.
- 5.8.9 This ecological interpretation of air quality sets to determine whether the baseline or whether a predicted environmental concentration exceeds the critical level or critical load for Habitats sites. This will include the use of the 'Site Relevant Critical Loads Search Tool'

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<sup>52</sup> This can be viewed at: [Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001](#)



and the 'habitat/species pollutant impacts database' on the Air Pollution Information System (APIS) (<http://www.apis.ac.uk>).

- 5.8.10 If no negative effects are identified or that impacts are considered de-minimis, then it will be reasonable to rule out adverse effects on site integrity. A de-minimis effect is a level of risk that is too small to be concerned with when considering qualifying features present on a Habitats site necessary to ensure their favourable conservation condition.
- 5.8.11 If negative effects are identified, with critical levels and/or critical loads exceeded at a Habitats site, then further ecological interpretation will be provided on whether this directly related to traffic emissions or likely to be from an alternative input (e.g. Agricultural practices). Further consideration will also be provided on whether any effects are likely long-term or short-term impacts. If it is identified that critical levels or critical loads are exceeded from traffic emissions and will only increase as a direct result of the adopted Local Plan, further recommendations for additional assessment or mitigation will be provided to avoid an Adverse Effects On site Integrity upon the relevant Habitats Sites.

#### Review of Habitats Sites

- 5.8.12 The Qualifying Features, Conservation Objectives and Key Vulnerabilities / Factors Affecting Site Integrity of the Benfleet and Southend Marshes SPA and Ramsar and the Thames Estuary & Marshes SPA and Ramsar have been set out in Appendix 2 of this report.
- 5.8.13 An interpretation of the potential impacts from NO<sub>x</sub>, NH<sub>3</sub> and SO<sub>2</sub> from traffic emissions upon the Protected Habitats sites is outlined below.
- 5.8.14 The Site Improvement Plan for the Greater Thames Complex (covering both Thames Estuary & Marshes and Benfleet and Southend Marshes) identifies that there is a risk of atmospheric nitrogen deposition.
- 5.8.15 The sensitive habitat features on site include Coastal Saltmarsh and Coastal and Floodplain Grazing Marsh and Intertidal Mudflats.
- 5.8.16 The nearest habitat / ecosystem type for nitrogen deposition on the APIS database for coastal saltmarsh is 'Pioneer, low-mid, mid-upper saltmarshes'. There are very few studies of Nitrogen deposition effects on these systems, but work undertaken in the Netherlands suggest coastal saltmarsh vegetation is Nitrogen limited (Mitsch & Gosselink, 2000), which would make it vulnerable to eutrophication effects from atmospheric Nitrogen deposition. These systems are typically inter-tidal, i.e. subject to continual, daily, periodic flooding with saline water. Therefore, overall atmospheric Nitrogen deposition is likely to be of low importance for these systems as the inputs are probably significantly below the large nutrient loadings from river and tidal inputs. There are no specific critical loads / levels for ammonia for this habitat, albeit it is noted that there may be some localized effects of ammonia from wintering wildfowl, especially large geese flocks. There are also no specific critical loads / levels for Sulphur Dioxide for this habitat.





5.8.17 There is no nearest habitat / ecosystem type for intertidal mudflats on the APIS database to provide an established critical load estimate. The APIS database did consider that mudflats were sensitive to nitrogen deposition, but this habitat type has since been removed from the database. This habitat will be inter-tidal, i.e. subject to continual, daily, periodic flooding with saline water. Therefore, overall atmospheric Nitrogen deposition is likely to be of low importance for these systems as any inputs are probably significantly below the large nutrient loadings from river and tidal inputs. There are also no specific critical loads / levels for Ammonia or Sulphur Dioxide for this habitat.

5.8.18 The relevant critical load of Nitrogen deposition, which includes Ammonia (NH<sub>3</sub>) and Nitrous oxides (NO<sub>x</sub>) for the relevant habitats are as follows, in line with the APIS database:

- Pioneer, low-mid, mid-upper saltmarshes (Coastal Saltmarsh and Coastal and Floodplain Grazing Marsh): 20-30 kgN ha<sup>-1</sup> year<sup>-1</sup>

5.8.19 The APIS database has not guidance on the relevant critical level of Nitrogen Oxides. However, guidance from the United Nations Economic Commission for Europe (UNECE)<sup>53</sup>, the critical level of air concentrations of nitrogen oxides upon all vegetation types is an Annual mean 30 µg/m<sup>-3</sup> and 24 hour mean 75 µg/m<sup>-3</sup>.

5.8.20 The APIS database also has no guidance relating for Ammonia (NH<sub>3</sub>) relating to coastal saltmarsh. However, consideration should be made in line with 'higher plants' critical levels:

- Higher plants: 3 µg NH<sub>3</sub> m<sup>-3</sup> annual mean (uncertainty of 2-4 µg NH<sub>3</sub> m<sup>-3</sup>)

5.8.21 The APIS database has not guidance on the relevant critical level of Sulphur dioxide (SO<sub>2</sub>). However, based on guidance from UNECE, the critical level for SO<sub>2</sub> concentration is 10 µg/m<sup>-3</sup> for cyanobacterial lichens and 20 µg/m<sup>-3</sup> for forest ecosystems / Semi-natural habitats.

5.8.22 In terms of the individual qualifying features of the Benfleet and Southend Marshes SPA and Ramsar and the Thames Estuary & Marshes SPA and Ramsar, it is indicated that the APIS database states the following with regard to the impacts from Nitrogen deposition:

Benfleet and Southend Marshes SPA and Ramsar:

- **A046a *Branta bernicla bernicla*; Dark-bellied brent goose (Non-breeding):** Overwintering population is sensitive to changes in broad habitat type from nitrogen deposition, if using coastal saltmarsh to forage. Therefore, there is possible impact from increases in nitrogen deposition upon the qualifying feature.

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<sup>53</sup> UNECE (2017) Manual on Methodologies and Criteria for Modelling and Mapping Critical Loads and Levels and Air Pollution Effects, Risks and Trends. (Chapter 3). [http://icpmapping.org/Latest\\_update\\_Mapping\\_Manual](http://icpmapping.org/Latest_update_Mapping_Manual)



- **A137 *Charadrius hiaticula*; Ringed plover (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type. Potential positive impact on species due to impacts on the species' food supply.
- **A141 *Pluvialis squatarola*; Grey plover (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh). Potential positive impact on species due to impacts on the species' food supply.
- **A143 *Calidris canutus*; Red knot (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh). Potential positive impact on species due to impacts on the species' food supply.
- **A149 *Calidris alpina alpina*; Dunlin (Non-breeding)** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh).

#### Thames Estuary & Marshes SPA and Ramsar:

- **A082 *Circus cyaneus*; Hen harrier (Non-breeding):** No expected negative impact due to impacts on the species' broad habitat type.
- **A132 *Recurvirostra avosetta*; Pied avocet (Non-breeding):** Potential negative impact on species due to impacts on the species' broad habitat. However, if the broad habitat does not change, there may be potential positive impacts on species due to impacts on the species' food supply.
- **A137 *Charadrius hiaticula*; Ringed plover (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type. Potential positive impact on species due to impacts on the species' food supply.
- **A141 *Pluvialis squatarola*; Grey plover (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh). Potential positive impact on species due to impacts on the species' food supply.
- **A143 *Calidris canutus*; Red knot (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh). Potential positive impact on species due to impacts on the species' food supply.
- **A149 *Calidris alpina alpina*; Dunlin (Non-breeding)** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh).



- **A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding):** Breeding populations sensitive to changes in broad habitat type, via the increase in tall grasses from nitrogen deposition. Breeding populations are not listed as a qualifying feature Thames Estuary & Marshes SPA and Ramsar, so no impacts are expected upon the species.
- **A162 *Tringa totanus*; Common redshank (Non-breeding):** No expected negative impact on over-wintering populations due to impacts on the species' broad habitat type (coastal saltmarsh).

5.8.23 Therefore, the only qualifying features of the Benfleet and Southend Marshes SPA and Ramsar which may be affected by increases in Nitrogen deposition are Dark-bellied Brent Goose. Dark-bellied Brent Goose during the winter feed on intertidal habitats, where the main plants exploited are *Zostera spp.* and green algae (*Enteromorpha spp.* and *Ulva spp.*). However, they also forage on coastal saltmarshes and in-land habitat, including grasslands, winter cereals, oilseed rape, and even recreation and sports grounds. As a result, considerations upon the impacts from new development and increased traffic emissions to Dark-bellied Brent Goose habitat / foraging availability will need to be considered.

5.8.24 The only qualifying features of the Thames Estuary & Marshes SPA and Ramsar to potentially be affected by increases in Nitrogen deposition are Pied avocet. However, this only applicable if changes to broad habitat type occur (coastal saltmarsh) following dominance of graminoids. Minor increases in nitrogen deposition may actually benefit the species from increased foraging availability. As a result, considerations upon the potential impacts from new development and increased traffic emissions to Pied avocet habitat will need to be considered.

5.8.25 Whilst not being referenced on the APIS database as being sensitive to negative impacts from nitrogen deposition upon impacts to coastal saltmarsh. The Site Improvement Plan Greater Thames Complex identifies the Priority and Issue to be the risk of atmospheric nitrogen, with one of the features affected including 'A082(NB) Hen Harrier'. The other features include A195(B) Little Tern and Seabird assemblage, which are not relevant to the Thames Estuary & Marshes SPA and Ramsar or Benfleet and Southend Marshes SPA and Ramsar. The proposed measures to minimise further impacts is to 'Control, reduce and ameliorate atmospheric nitrogen impacts'.

5.8.26 The Thames Estuary and Marshes SPA Supplementary advice states the following with regard to Hen harrier (Non-breeding) with regard to air quality:

*"This target has been included because the structure and function of habitats which support this SPA feature may be sensitive to changes in air quality. Exceeding critical values for air pollutants may result in changes to the chemical status of its habitat substrate, accelerating or damaging plant growth, altering vegetation structure and composition and thereby affecting the quality and availability of feeding or roosting habitats."*



*At the time of drafting, the best available data for NH<sub>3</sub>, NO<sub>x</sub> and SO<sub>2</sub> were annual mean levels for the period 2005-2012. These were as follows: NH<sub>3</sub> levels have seen a slight net increase over this period; minimum and maximum concentrations started at 0.4 and 1.5 µg/m<sup>3</sup> respectively, these both peaked in 2010 at 0.5 and 1.9 µg/m<sup>3</sup>; decreasing slightly to 0.4 and 1.6 µg/m<sup>3</sup> in 2012. NO<sub>x</sub> levels have seen a slight net increase over this period; minimum a maximum concentration started at 14 and 21 µg/m<sup>3</sup> respectively. Minimum concentration peaked in 2009, 2010, and 2011 at 18 µg/m<sup>3</sup>, maximum concentration peaked in 2011 at 26 µg/m<sup>3</sup>; decreasing slightly to 16 and 25 µg/m<sup>3</sup> in 2012. Maximum SO<sub>2</sub> levels have fluctuated over this period, with a increase in concentration, while the minimum concentration has also fluctuated but with no net increase or decrease. Maximum concentration peaked in began at 4.5 µg/m<sup>3</sup>, peaking at 7.2 µg/m<sup>3</sup> in 2011, and ending at 5.9 µg/m<sup>3</sup> in 2012. Minimum concentration began at 1.9 µg/m<sup>3</sup>, peaking in 2007 at 3.4 µg/m<sup>3</sup>, decreasing back down to 2.1 µg/m<sup>3</sup> by 2012.*

*APIS set the critical level of NH<sub>3</sub> for Hen harrier at 2-4 µg/m<sup>3</sup> for all supporting habitats. This concentrations of NO<sub>2</sub> recorded at this site are below this critical level. APIS set the critical level of Nox for Hen harrier at 75 µg/m<sup>3</sup> annual mean for all supporting habitats. The recorded Nox levels are well below this critical level. No Critical level of SO<sub>2</sub> has been set by APIS for this feature ([Air Pollution Information System \(APIS\), 2015](#))."*

5.8.27 Therefore, previous monitoring confirmed that critical levels of ammonia and Nitrous Oxide were not being exceed on the supporting habitat from NH<sub>3</sub> and NO<sub>x</sub>. Nevertheless, considerations upon the potential impacts from new development and increased traffic emissions as a result of the local plan will need to be considered upon Hen harrier and its supporting habitat.

#### Review of APIS Baseline Data

5.8.28 The APIS database provides a desk-based assessment for 2021 (Mid-year for 3 year average 2020-2022) based on 1km grid squares. This includes average Nitrogen deposition (KgN/ha/yr), Ammonia concentration (µg/m<sup>-3</sup>), NO<sub>x</sub> concentration (µg/m<sup>-3</sup>) and SO<sub>2</sub> Concentrations (µg/m<sup>-3</sup>).

5.8.29 This includes the following minimum and maximum pollutant levels for 1km grid squares within 1km of the Benfleet and Southend Marshes SPA and Ramsar:

- Nitrogen deposition: 9 – 11.7 kgN ha<sup>-1</sup> year<sup>-1</sup>
- NO<sub>x</sub> concentration: 15.8 – 18.8 µg/m<sup>-3</sup>
- NH<sub>3</sub> concentration: 0.9 – 1 µg/m<sup>-3</sup>
- SO<sub>2</sub> concentration: 1.6 – 2 µg/m<sup>-3</sup>

5.8.30 This includes the following minimum and maximum pollutant levels for 1km grid squares within 1km of the Thames Estuary and Marshes SPA and Ramsar:



- Nitrogen deposition: 7.7 – 8.9 kgN ha<sup>-1</sup> year<sup>-1</sup>
- NO<sub>x</sub> concentration: 14.3 – 23.1 µg/m<sup>-3</sup>
- NH<sub>3</sub> concentration: 0.8 – 0.9 µg/m<sup>-3</sup>
- SO<sub>2</sub> concentration: 1.1 – 1.8 µg/m<sup>-3</sup>

5.8.31 As a result, the following conclusions can be made based on the APIS desk-based assessment for 2021:

- **Nitrogen deposition:** The Critical Load of nitrogen deposition for Pioneer, low-mid, mid-upper saltmarshes (20-30 kgN ha<sup>-1</sup> year<sup>-1</sup>) is not being exceeded for Benfleet and Southend Marshes SPA and Ramsar or the Thames Estuary and Marshes SPA and Ramsar based on the most recent desk-based assessment from the APIS database.
- **NO<sub>x</sub> concentration:** The critical level of air concentrations of NO<sub>x</sub> upon all vegetation types (Annual mean 30 µg/m<sup>-3</sup> and 24 hour mean 75 µg/m<sup>-3</sup>) is not being exceeded for Benfleet and Southend Marshes SPA and Ramsar or the Thames Estuary and Marshes SPA and Ramsar based on the most recent desk-based assessment from the APIS database. There are greater concentrations associated to the south-west of Canvey Island, which is likely related to shipping activities.
- **Ammonia concentration:** The critical level of Ammonia (NH<sub>3</sub>) upon higher plants (3 µg NH<sub>3</sub> m<sup>-3</sup> annual mean) is not being exceeded for Benfleet and Southend Marshes SPA and Ramsar or the Thames Estuary and Marshes SPA and Ramsar based on the most recent desk-based assessment from the APIS database.
- **SO<sub>2</sub> concentration:** The critical level of Sulphur Dioxide (SO<sub>2</sub>) concentration (10 µg/m<sup>-3</sup> for cyanobacterial lichens and 20 µg/m<sup>-3</sup> for forest ecosystems / Semi-natural habitats) is not being exceeded for Benfleet and Southend Marshes SPA and Ramsar or the Thames Estuary and Marshes SPA and Ramsar based on the most recent desk-based assessment from the APIS database.

5.8.32 As a result, no impacts from adverse air quality upon sensitive qualifying features of the Benfleet and Southend Marshes SPA and Ramsar (Dark-bellied Brent Goose and Pied avocet) or Thames Estuary and Marshes SPA and Ramsar (Hen Harrier) are expected from these current deposition and concentrations levels of the outlined pollutants.

#### Ecological interpretation of Castle Point 2024 Air Quality Annual Status Report

5.8.33 In the Habitats Regulations Assessment supporting the Pre-Submission Local Plan October 2019 for Castle Point Borough, it was recommended that air quality monitoring should be undertaken within four locations within 200m of the Benfleet and Southend Marshes SPA and Ramsar. This was recommended as current impacts from adverse air quality was unknown to the Habitats site and the further monitoring would establish whether





impacts are currently occurring or that impacts may result as a direction result of policy decisions of the Castle Point Plan.

- 5.8.34 Monitoring locations were recommended within 200m of the Habitats site because the Highways Agency National Highways' Design Manual for Roads and Bridges (DMRB) -LA 105 -Air quality (vertical barriers)<sup>54</sup> assumes that air pollution from roads is unlikely to be significant beyond 200m from the road itself. The Highways Agency Design Manual for Road and Bridges is specifically used to consider the impacts of the delivery of motorway and all-purpose trunk road projects (A-roads).
- 5.8.35 The LPA has prepared The Castle Point 2024 Air Quality Annual Status Report<sup>55</sup>, which can be found on the Essex Air website along with further information relating to air quality within Castle Point, which assesses the NO<sub>x</sub> concentration from traffic emissions and the potential impacts upon human health within Castle Point Borough.
- 5.8.36 The main source of pollution in the Borough is road traffic emissions from major roads, notably the A13, A127 and A130, particularly along London Road and Canvey Way. Additionally, key junctions like A127 Rayleigh Weir and A13/A130 Sadlers Farm junction contribute to pollution levels. However, none of these A-roads are located within 200m of the Benfleet and Southend Marshes SPA and Ramsar.
- 5.8.37 The report monitors atmospheric nitrogen dioxide (NO<sub>2</sub>) concentrations using diffusion tubes at 34 monitoring locations around the district. The use of NO<sub>2</sub> has been used rather than any other subtype of Nitrogen oxides (NO<sub>x</sub>) as Nitrogen dioxide primarily results from fuel combustion from sources such as motor vehicles and industrial activities. NO<sub>2</sub> is typically found in high densities in urban areas but tends to be equivalent to background levels in rural areas with a lower density of NO<sub>x</sub>-emitting sources. Out of the 34 monitoring locations only monitoring point 'CP06' is located in area within 200m of the Benfleet and Southend Marshes SPA and Ramsar. This site is located to the south-east of Canvey Island and referred to as 'CPBC Depot'.
- 5.8.38 The results of the 5 year monitoring showed that max NO<sub>2</sub> concentration at point CP06 was 20.9 µg/m<sup>-3</sup> in 2019. NO<sub>2</sub> concentration as of 2023 are concurrently being recorded as 13.4 µg/m<sup>-3</sup>. Therefore, the annual mean of NO<sub>x</sub> concentration is likely not exceeding the Critical level upon all vegetation types (Annual mean 30 µg/m<sup>-3</sup>) for the Benfleet and Southend Marshes SPA at this location. Furthermore, no annual mean of NO<sub>2</sub> concentration exceeded 30 µg/m<sup>-3</sup> for all 34 monitoring locations across Castle Point Borough.

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<sup>54</sup> Highways Agency National Highways' Design Manual for Roads and Bridges (DMRB) -LA 105 -Air quality (vertical barriers) (formerly HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15), Version 0.1.0, can be viewed at: [HTML Document View](#)

<sup>55</sup> Castle Point 2024 Air Quality Annual Status Report can be viewed at: [Local Authorities | Essex Air](#)



- 5.8.39 As a result, no impacts from adverse NO<sub>x</sub> concentration upon sensitive qualifying features of the Benfleet and Southend Marshes SPA and Ramsar (Dark-bellied Brent Goose and Pied avocet) are expected from these concentrations levels.
- 5.8.40 The Castle Point 2024 Air Quality Annual Status Report (ASR) also found that “Air pollution is considered to be generally good in Castle Point and there are no Air Quality Management Areas (AQMA) designated within the Borough”. However, AQMA areas are only established when air quality objective of 40µg/m<sup>3</sup> is exceeded. Therefore, there can be impacts upon ecological sensitive receptors from high NO<sub>x</sub> concentration before AQMA are designated. Nevertheless, one of the Report’s conclusions were that there are no new developments that will have a significant impact on air quality within the Borough.
- 5.8.41 It is also outlined that an Essex Air Quality Strategy (Essex Air, January 2025) is currently being produced and a draft document is available for public consultation<sup>56</sup>. However, this document only relates to human health impacts from adverse air quality and can’t be considered in the context of this Habitats Regulations Assessment.

### Transport Policies

- 5.8.42 Within Essex, the transport strategy is set out within the Essex Local Transport Plan Update 3 (2011). Consultation on a revised up to date version of the LTP is anticipated. One of its strategic outcomes is to ‘reduce carbon dioxide emissions and improve air quality through lifestyle changes, innovation and technology’. While the Borough suffers from congestion, much of this is inland due to the major transport routes and junctions. Furthermore, there are no major roads within 200 metres of Benfleet and Southend Marshes SPA and Ramsar site.
- 5.8.43 *Policy C5- Improved Access to and around Canvey Island.* Details are currently unknown and will be subject to a feasibility study to identify options for improving access to, from and within Canvey Island. The Policy includes a requirement that, “Options in the feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no resulting harm to internationally protected sites”.
- 5.8.44 *Policy T2 - Highways Improvements* also relates to improvement of the existing road network to and from Canvey Island. However, these improvements are likely to be more than 200m from Benfleet and Southend Marshes SPA and Ramsar site and therefore a sufficient distance to not expect to affect air quality of the designated land of the Habitats Sites.
- 5.8.45 The safeguarding of a third access for Canvey Island at West Canvey is safeguarded. A new crossing could increase the level of air pollution during the construction period and in the long term. This area contains large amounts of coastal saltmarsh which is known to be sensitive to nitrogen deposition. The key species that is found in significant numbers is

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<sup>56</sup> Draft Essex Air Quality Strategy: can be viewed at:  
[https://cdn.cms42.com/essexair/reports/Strategy/essex\\_air\\_quality\\_strategy\\_web\\_version.pdf](https://cdn.cms42.com/essexair/reports/Strategy/essex_air_quality_strategy_web_version.pdf)



Black-tailed Godwit, but this species is unlikely to be affected by adverse air quality based on the APIS guidance.

### Housing Policies

- 5.8.46 Most proposed development in the Castle Point Plan are more than 200 metres from the Benfleet and Southend Marshes SPA and Ramsar site boundary and Holehaven Creek SSSI.
- 5.8.47 Land at the Point (C9) near the eastern tip of Canvey Island is c.135 metres from Benfleet and Southend Marshes SPA and Ramsar and is the only residential site within the 200-metre parameter set by the (DMRB). It potentially creates a higher risk potential for air quality impacts alone during construction and operation phases of the development. However, the Critical Levels of NO<sub>x</sub> are well within limits at this location and declining and impacts are considered unlikely.
- 5.8.48 It is assumed that the majority of vehicular access would be from the inland roads which are more than 200 m from the Habitats sites' boundaries.
- 5.8.49 Policy C8 (Residential Park Home Sites, Canvey Island) includes redevelopment of land at Kings Park which is adjacent to Benfleet and Southend Marshes SPA and Ramsar site. It is separated from Benfleet and Southend Marshes SPA and Ramsar site by only the sea wall. It is understood that vehicles would access the allocated site, from the road on the southern boundary and would not use the east-west road at the north boundary of the existing Kings Park adjacent to the sea wall. Use of the southern road by the increased traffic as a result of policy C8 would be much less likely to cause effects upon the SPA and Ramsar site due to the distance from them.
- 5.8.50 Policy C4 West Canvey Located south of Northwick Road. The outcome of Policy is uncertain due to the requirement of subsequent masterplan to include residential, community, commercial and industrial uses; it includes provision for at least 1,550 homes.
- 5.8.51 This area is located c. 400 metres from Holehaven Creek SSSI and opposite the Thames Estuary and Marshes SPA where it is located on south side of River Thames. Some of the site is already developed and the western section has planning permission which has not been implemented. Policy C4 would encourage increased road usage to access this area.
- 5.8.52 However, it is located more than 3km Benfleet and Southend Marshes SPA and Ramsar boundary and is also situated well over the 200-metre parameter set by the DMRB. Policy C4 requires a HRA for the masterplan and associated development. This provides embedded mitigation which is sufficient for the current level of information available to avoid impacts upon sensitive qualifying features of the Benfleet and Southend Marshes SPA and Ramsar (Dark-bellied Brent Goose and Pied avocet) or Thames Estuary and Marshes SPA and Ramsar (Hen Harrier).





### Canvey Port Facilities

- 5.8.53 The ports are situated to east of the mouth of Holehaven Creek. These sites contain hazardous waste and use both the River Thames and roads for transportation. The scale of any potential future redevelopment is not known but there is potential for adverse effects caused during construction and implementation stages.
- 5.8.54 The ports are situated near to Holehaven Creek SSSI but are approximately 1.3km north of the Thames Estuary and Marshes SPA and Ramsar boundary and at least 3.5km from Benfleet and Southend Marshes SPA and Ramsar.
- 5.8.55 A potential increase in Sulphur Dioxide emissions, which in high concentrations could alter species composition of plant and associated animal communities within nearby Habitats sites could occur as a result of port development. The port is over 2km from Benfleet and Southend Marshes SPA and Ramsar site but adjacent to Holehaven Creek SSSI. High concentrations of Sulphur dioxide are unlikely to cause an adverse impact. Coastal winds are less predictable and stronger than inland and so it is possible that increased shipping activity could increase air pollution to the Thames Estuary and Marshes SPA & Ramsar site or its Functionally Linked Land.
- 5.8.56 The Reasoned Justification for Policy C3 - Canvey Port Facilities indicates that any development of Canvey Port Facilities must not have an adverse effect on the integrity Habitats sites. In addition, Policy C3 requires compliance with policies ENV3 and SD4. Therefore, considerations upon Hen harrier and its supporting habitats would be considered as part of project level Habitats Regulations Assessment.
- 5.8.57 As there are no known developments, it is considered that the embedded mitigation is sufficient or the current level of details.

### **Use of Mitigation Measures**

- 5.8.58 The precise contributors and potential for adverse effects are unknown but the cumulative effects of the development proposals within the Castle Point Plan could have an adverse effect on site integrity, largely caused by an increase to traffic as a result of an increase of development. Thus, precautionary mitigation measures for air quality should be undertaken.
- 5.8.59 Mitigation measures are set out for each policy in Table 31: Policies and Site Allocations which could adversely affect the Air Quality of Habitats sites below. This Table considers the mitigation that is already embedded in the Castle Point Plan with respect to Air quality.
- 5.8.60 There are a number of policies which provide embedded mitigation. In particular, these include the following:
- ENV3: Securing Nature Recovery and Biodiversity Net Gain



- SD6: Pollution Control
- T1: Transport Strategy

- 5.8.61 Some policies and / or Reasoned Justifications may already refer to the need to ensure that there will be no Adverse Effects on Site Integrity (AEOI).
- 5.8.62 The third column in Table 31 shows the recommendations for any additional mitigation that may be required to ensure there will be no Adverse Effects on Site Integrity (AEOI). These have subsequently also been included in the Plan but are retained in the Table to demonstrate the changes that have been made during the Plan's development as an audit trail.
- 5.8.63 Policy ENV3: Securing Nature Recovery and Biodiversity Net Gain is a positive policy as Part 2) requires "Satisfying the requirements of the Habitats Regulations for any proposals which are likely to cause an adverse effect on the integrity, either individually or in combination with other developments, on Habitats sites by avoiding or mitigating any site-specific impacts."
- 5.8.64 Policy T1 - Transport Strategy is also a positive policy in that it aims for the Council to work with others to "deliver net zero carbon emissions by 2050, and ensure local air quality is maintained at acceptable levels".
- 5.8.65 SD6: highlights that Development proposals should be designed to manage and reduce pollution. It proposes that "All major development proposals must be accompanied by a Construction Environment Management Plan prepared with regard to pollution prevention guidance". It requires that "plans shall include details of the proposed mitigation measures that will be implemented to prevent undue noise and disturbance to ... Habitats sites and the entry of pollutants into the environment by all potential pathways..." It is recommended that Part 4. Should include air quality. I.e.
- "...the entry of pollutants into the environment by all potential pathways including, but not limited to, watercourses (including when dry) and air."
- 5.8.66 Air quality is a potential concern for the new third access onto Canvey Island. However, it should have a project level Habitats Regulations Assessment when proposals come forward. This should include consideration of air quality.
- 5.8.67 It is recommended that air quality monitoring is undertaken at the location of improvements to access for Canvey Island. This should be done as part of any project or study to bring forward a proposal.
- 5.8.68 Policy C9 (Land at The Point, Canvey Island) is located within 200 metres of Benfleet and Southend Marshes SPA and Ramsar site and has the potential to cause an adverse effect.
- 5.8.69 Policy C8 (Residential Park Home Sites, Canvey Island) allows redevelopment of existing homes at Kings Park which is adjacent to Benfleet and Southend Marshes SPA and



Ramsar site. These would be constructed to be less prone to flood risk than the park homes that currently exist. The Policy requires compliance with all relevant policies and specifically refers to requirements related to the Habitats Regulations.

- 5.8.70 It is recommended that vehicular access for Kings Park should not be near to the sea wall. Creek Road is 100 metres from this and should not be used to provide access. The road south and parallel to this is around 180 metres from the SPA and Ramsar site, which is still within the 200 metre threshold it should be explicit in Policy C8 that vehicular access should be located as far from the SPA as possible, ideally along the road in the southern side of Kings Park and there should be no vehicular access (except, for example, for emergencies) using the northern road/ path, which runs adjacent to the sea wall.
- 5.8.71 Consequently, it is considered that Policies ENV3 and SD6 provide suitable embedded mitigation measures.
- 5.8.72 It is considered likely that the plan proposes a de-minimis level of risk with consideration to adverse air quality relating to traffic emissions in combination with other plans and projects upon Benfleet and Southend Marshes SPA and Ramsar site, with consideration of the current air pollution baseline and the lack of A-roads within 200m of the Habitats site. As a result, the need for further bespoke air quality monitoring can be ruled out, as an adverse effects on site integrity upon the Habitats site is unlikely. Nevertheless, the air quality baseline must be reviewed as part of the next local plan period, to determine whether pollutant levels have significant changed.



**Table 31: Policies and Site Allocations which might adversely affect Habitats sites through Air Quality and proposed additional mitigation**

| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
| Policy SP3- Meeting Development Needs                                   | <p>Policy sets out development needs and provision for housing supply and employment and includes principle of master planning for West Canvey and other sites. Includes green belt and grey belt. It sets out housing supply numbers for Specific Site Allocations and windfall developments.</p> <p>Outcome is uncertain and depends on the nature, scale and locations of proposals. No location identified in policy for windfall sites and outcome is therefore uncertain. However, any development on Canvey would be likely to increase use of the road network.</p> <p>Site Allocations are addressed individually within this HRA.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies SP3, ENV3, T1 and SD6 Pollution Control provide suitable embedded mitigation measures.</p> | None.   |
| Policy C1 - Canvey Town Centre  | Regeneration and investment into Canvey Town Centre will be delivered via a new Canvey Town Centre Master Plan with additional   | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | <p>plans and strategies, which are a consequence of this Plan. Includes of minimum 200 homes and new commercial floorspace.</p> <p>Located c. 0.75km from Benfleet and Southend Marshes SPA and Ramsar. However, it is situated within the existing urban area which may provide a buffer with respect to air quality.</p> <p>The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effect on site integrity".</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3, T1 and SD6 provide suitable embedded mitigation measures.</p> |   |
| Policy C3 - Canvey Port Facilities                                      | <p>The ports are situated at the mouth of Holehaven Creek. The scale of any potential future redevelopment is not known.</p> <p>These sites contain hazardous waste and use both the River and roads for transportation.</p> <p>Potential for AEOI during construction and use stages.</p> <p>The ports are close to Holehaven Creek (FLL) but c.1.3km from Thames Estuary and Marshes SPA and Ramsar and at least 3.5km from Benfleet and Southend Marshes SPA and Ramsar. Even when taking into account changeable wind directions and the ability of air to</p>  | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | <p>move freely due to coastal influences and the flat open nature of the coast, the ports are well over the 200-metre parameter set by the Design Manual for Roads and Bridges (DMRB) from Habitats sites.</p> <p>Policy SD6 has been amended to explicitly include air quality</p> <p>Requires compliance with ENV3.</p> <p>Embedded mitigation is sufficient.</p>   |   |
| Policy C4 West Canvey   | <p>Located south of Northwick Road.</p> <p>The outcome of Policy is uncertain due to the requirement of subsequent masterplan to include residential, community, commercial and industrial uses. 500-1000 homes.</p> <p>Located close to Holehaven Creek SSSI (c.400 metres) and opposite the Thames Estuary and Marshes SPA where it is located on south side of River Thames. Some of the site is already developed. The western section has planning permission which has not been implemented. Policy would encourage increased road usage to access this area.</p> <p>However, it is located well away from Benfleet and Southend Marshes SPA and Ramsar boundary and is also situated well over the 200-metre parameter set by the DMRB with respect to Holehaven Creek SSSI.</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
|   | <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p>   |   |
| <p>Policy C5- Improved Access to and around Canvey Island</p>           | <p>Details currently unknown and will be subject to a feasibility study. However, it provides for improved access to, from and within Canvey Island and roads are the primary cause of NO<sub>2</sub> in the Borough.</p> <p>More detail is set out in Policy T2.</p> <p>Mitigation is provided within Policy C5 by requiring a HRA for improvements to access to Canvey Island.</p> <p>The Policy and Reasoned Justification require that any feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no adverse effect on integrity to internationally protected sites.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Embedded mitigation is sufficient for the current level of information available.</p> | <p>None.</p>  |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity   |
|---|--|---|
| <p>Policy C9 - Land at the Point, Canvey Island</p>                     | <p>This site is c.135 metres from Benfleet and Southend Marshes SPA and Ramsar and is the only site within the 200 metre parameter set by the (DMRB). Potential for air quality impacts alone during construction and use stages.</p> <p>The Critical Levels of NO<sub>2</sub> are well within limits at this location and declining.</p> <p>Part d) of C9 now states: "Make provision for open space on-site to minimise any impact on Habitats site;</p> <p>The Reasoned Justification states: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites".</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> | <p>Additional text has been included to require avoidance of any AEOI. However, the preceding text in the Reasoned Justification only relates to recreational disturbance effects. Other effects may also be possible due to the close proximity with Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Further adjustment to text is recommended.</p> <p>Amend text to: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites, including from construction impacts as well as occupational impacts."</p> <p>Monitoring of critical loads on or near by vegetation of Benfleet and Southend Marshes SPA and Ramsar is recommended.</p> |





| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
| Policy C10 - Other Housing Site Allocations on Canvey Island.           | <p>There are two locations- i.e. C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road -are located on the southern side of Canvey Island just behind the sea wall, and less than 1km from Benfleet and Southend Marshes SPA and Ramsar.</p> <p>Even when taking into account changeable wind directions and the ability to air to move freely due to coastal influences and the flat open nature of the coast, locations are likely to be well over the 200-metre parameter set by the Design Manual for Roads and Bridges (DMRB).</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals at C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land".</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> | None.   |
| Policy Hou5 - Park Homes  | <p>Criteria based policy regarding provision of park homes.</p> <p>Nearly 2,000 park homes located across three sites on Canvey (Kings Park, Sandy Bay and Holehaven Caravan park) and one site in Benfleet (Kingsleigh Park). Some of these are near to Benfleet and Southend Marshes SPA and Ramsar or Functionally linked land.</p>  | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | <p>Even when taking into account changeable wind directions and the ability to air to move freely due to coastal influences and the open nature of the coastal habitats, locations are likely to be well over the 200-metre parameter set by the Design Manual for Roads and Bridges (DMRB).</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3, T1 and SD6 provide suitable embedded mitigation measures.</p> |   |
| Policy Hou6 - Gypsy and Traveller Provision                             | <p>Some sites are identified. The outcome of any others is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
| <p>Policy E1- Development on Strategic Employment Land</p>              | <p>The outcome of the policy at this stage is uncertain. Encourages employment-related development on four sites (West Canvey, Canvey town centre, Hadleigh town centre and Manor Trading Estate), two of which are on Canvey Island and close to Habitats sites or FLL, i.e. SEL3 - Charfleets Industrial Estate &amp; Roscommon Way, Canvey and SEL4 - South Canvey Port Facilities.</p> <p>Policy may encourage increased road usage to access this area. However, they are located well away from Benfleet and Southend Marshes SPA and Ramsar boundary and are also situated well over the 200-metre parameter set by the DMRB with respect to Holehaven Creek SSSI.</p> <p>The Reasoned Justification now states; "A Habitats Regulations Assessment will be required of any new development at SEL4 (South Canvey Port Facilities), West Canvey and Canvey Town Centre to avoid any adverse effects on integrity of nearby Habitats sites or functionally linked land".</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p> | <p>None.</p>  |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
| Policy TC1 - Town Centres   | <p>Policy supports development in the existing urban town centres, i.e. Canvey Island, Hadleigh, South Benfleet and Tarpots. These are buffered by surrounding buildings and even Canvey town centre is located well over the 200-metre parameter set by the DMRB.</p> <p>Policy may encourage increased road usage to access this area.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures.</p>  | None.   |
| Policy TC3 - Retail Parks and Out of Centre Locations                   | <p>Development and regeneration of two Out of Centre Retail Parks, one of which is located at West Canvey, close to FLL. Regeneration is supported.</p> <p>Policy may encourage increased road usage to access this area.</p> <p>However, the West Canvey site is located well away from Benfleet and Southend Marshes SPA and Ramsar boundary is also situated well over the 200-metre parameter set by the DMRB for Holehaven Creek SSSI.</p> <p>C4 requires a HRA for the masterplan and associated development.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies C4, ENV3 and SD6 provide suitable embedded mitigation measures.</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
| Policy GB2 – Previously Developed Land in the Green Belt                | <p>Strategic policy for non-housing applications within GB. Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policy may encourage increased road usage to access them.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures, except where additional mitigation is recommended through GB Site Allocation policies.</p> | None.   |
| Policy T1 - Transport Strategy  | <p>Outcome is uncertain and depends on the nature, scale and location.</p> <p>It aims to “secure transport networks in Castle Point that deliver net zero carbon emissions by 2050, and ensure local air quality is maintained at acceptable levels”.</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> <p>Policies ENV3 and SD6 provide suitable embedded mitigation measures for the level of information available</p>          | None.   |
| Policy T2 - Highway Improvements  | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>T2 provides for new roads and land is safeguarded for new access at West Canvey. Roads are the primary cause of NO<sub>2</sub> in the Borough.</p>  | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation  | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|--|---|
|   | <p>The IDP Baseline 2024 advises that any new road would avoid the east side to avoid the designated sites.</p> <p>Significant potential for AEOI during construction period and during use.</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p> <p>Reasoned Justification refers to Policies C5 and C4.</p> <p>T2 now states: "Any improvements to accessing Canvey Island must avoid any adverse effects on the integrity of Habitats sites".</p> <p>The Reasoned Justification now states: ".. further studies are required to explore this further. Any improvements to the access to Canvey Island must avoid any adverse effects on the integrity of Habitats Sites. A Habitats Regulations Assessment will be required to demonstrate no adverse effects on site integrity".</p> <p>Policy SD6 now explicitly includes air quality.</p> |   |
| Policy T3 - Active Travel Improvements                                  | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".</p>  | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality  | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|--|---|---|
|  | <p>Policy SD6 has been amended to include air quality.</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p>  |   |
| Policy T4 - Improvements to Public Transport Infrastructure and Services | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Policy SD6 has been amended to include air quality.</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p>  | None.   |
| Policy SD1 - Tidal Flood Risk Management                                 | <p>Outcome is uncertain and depends on the nature, scale and location of proposals.</p> <p>Flood defence works could create temporary reduction in air quality during construction due to their proximity to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (FLL).</p> <p>Policies ENV3 and SD6 suitable embedded mitigation measures.</p> <p>The Reasoned Justification has been strengthened to explicitly state that Habitats sites should not be adversely affected. It now states: "Any development within Hadleigh Marshes should avoid causing adverse effects on sites' integrity or compensation will be required if imperative reasons of overriding public interest agreed by the Secretary of State at application stage. This will need to be</p> | None.   |



| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | <p>demonstrated through a project level Habitats Regulations Assessment.“</p> <p>and</p> <p>“Any works to retain or enhance sea walls, or within the 19m safeguarded buffer zone, should avoid causing adverse effects on site integrity. This will need to be demonstrated through a project level HRA.”</p>   |   |
| Policy SD6 - Pollution Control  | <p>SD6 is relied upon to provide embedded mitigation for <i>construction phases</i>.</p> <p>Policy text has now been amended to explicitly include air quality in Part 4. i.e.:</p> <p>“These plans shall include details of the proposed mitigation measures that will be implemented to prevent undue noise and disturbance to adjoining occupiers and Habitat Sites and the entry of pollutants into the environment by all potential pathways including, but not limited to watercourses (including when dry) <u>and air</u>”.</p> <p>The Reasoned Justification has a specific section on air pollution.</p> <p>Air quality section of the Reasoned Justification does not reference Habitats sites and it is focussed upon human health rather than the</p> | None.   |





| Policy/ Site Allocation within scope for issues relating to Air Quality | Assessment of Embedded Mitigation   | Additional measures needed to avoid Adverse Effects on Site Integrity |
|---|---|---|
|   | potential effects to vegetation and monitoring relates to critical levels of N <sub>2</sub> , rather than critical loads of NO <sub>x</sub> . |   |



## Re-applying the Integrity Test

5.8.73 The Castle Point Plan has incorporated the recommendations of this HRA.

5.8.74 There is currently insufficient detail about the proposed new access to Canvey Island, which may cross Holehaven Creek, for this HRA to conclude, beyond scientific doubt, that there will be no adverse effects on site integrity of the Thames Estuary & Marshes SPA & Ramsar site. Additional text has been proposed to ensure that there will be no Adverse Effects on Integrity of any Habitats Sites, including Functionally Linked Land. This must be addressed once there is further information to do so.

5.8.75 Given the limited information available on the third crossing the 'mitigation' in the Local Plan will need to consist of a policy framework that explicitly prevents a proposal coming forward unless it is able to demonstrate that adverse effects on the integrity of European sites can be avoided.

5.8.76 As highlighted above in paragraph 4.1.7, this is in line with advice from the European Court of Justice regarding the 'tiering' of HRAs where there are multiple levels of plan-making, recognising that the purpose of a high level plan is to set out broad policies and intentions without going into any detail.

5.8.77 Explicitly enshrining the requirement for project-level HRA in the plans – since it is not possible to rule out adverse effects on the integrity of many European sites due simply to the high level nature of the plan policies, 'down-the-line' assessment becomes essential.

5.8.78 Additional text for C9 Land at the Point, Canvey Island has been included as recommended, to require avoidance of any AEOL. However, the preceding text in the Reasoned Justification only relates to recreational disturbance effects which could create some ambiguity as other effects may also be possible due to the close proximity with Benfleet and Southend Marshes SPA and Ramsar. Further adjustment to the text is therefore recommended to reflect this.

5.8.79 With respect to Air Quality, it is considered that, based on the information available, and with the mitigation embedded as proposed in the sections above, the Castle Point Plan is not predicted to have any adverse effect on integrity (AEOL) on any Habitats sites, either alone or in combination with other plans and projects.

## 5.9 Assessment of Impacts in Combination with Other Plans and Projects

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5.9.1 A series of individually modest impacts may, in combination, produce a significant impact. Cumulative impacts may only occur over time, so plans or projects which are completed, approved but uncompleted, or proposed should all be considered. The assessment should not be restricted to similar types of plans and projects.



- 5.9.2 There are several plans and projects which could result in combination in significant adverse effects so need to be considered in combination with the Castle Point Plan. The relevant other plans to be considered in combination with the Local Plan are listed in Table 32 below.
- 5.9.3 Impact pathways to be considered in this in combination assessment are increases in habitat loss and fragmentation; loss of functionally linked land; disturbance (including recreational pressure); changes in water quality and quantity, and air quality.

**Table 32. Other plans or projects considered for in combination effects**

| Competent authority/<br>Statutory Body | Title of HRA  | Findings of HRA Plan or Project | Potential for in combination effects       |
|--|---|---------------------------------|--|
| <b>Plans</b>                           |   |                                 |  |
| Anglian Water                          | <p>Anglian Water (December 2022) Draft WRMP24 Non-technical Summary- Our Water Resources Management Plan 2024. Available at: <a href="https://www.anglianwater.co.uk/siteassets/household/about-us/wrmp/draft-wrmp24-non-technical-summary.pdf">https://www.anglianwater.co.uk/siteassets/household/about-us/wrmp/draft-wrmp24-non-technical-summary.pdf</a></p> <p>Anglian Water<br/>Draft Water Resource Management Plan 24<br/>Habitats Regulations Assessment<br/>October 2022 (Mott MacDonald)</p> |                                 | Habitats sites do not overlap.<br>No AEOL. |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project   | Potential for in combination effects  |
|--|--|---|---|
|  | <u>sub-report-a-HRA Anglian Water (December 2022) Draft WRMP24 Non-tech Summary-Our Water Resources Management Plan 2024.pdf</u> |   |   |
| Basildon                               | <p>Post Submission Modifications version of the Basildon Borough Local Plan 2022</p> <p>LUC December 2021</p>                    | <p>Strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS.</p> <p>With regards to water quality and quantity (flood risk), the provision of mitigation and avoidance safeguards committed to in the 2022 Local Plan were considered sufficient to provide assurance that new phases of development would only be delivered when the necessary infrastructure upgrades and provisions are in place. This was considered suitably robust to ensure that adverse effects on the integrity of European sites as a result of change in water quality or quantity arising from 2022 Local Plan would be avoided, either alone or in-combination.</p> | <p>No, as it is considered by Basildon HRA that there will be no AEOL from recreational impacts or water quality and quantity (flood risk).</p> |



| Competent authority/<br>Statutory Body   | Title of HRA   | Findings of HRA Plan or Project  | Potential for in combination effects   |
|--|--|--|--|
| Brentwood District Council   | HRA of Brentwood DC Draft Local Plan Preferred Site Allocations (AECOM, Jan 2018)  |  | No as strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS.                                     |
| Castle Point Borough Council, Basildon Borough Council and Rochford District Council | South Essex Outline Water Cycle Study Technical Report Final September 2011  | HRA not available  | N/A  |
| Chelmsford City Council  | Chelmsford Pre-Submission Local Plan   | Chelmsford Pre-Submission Local Plan HRA (Amec Foster Wheeler, Jan 2018)   | None as strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS.                                   |
| Environment Agency   | Essex and South Suffolk Shoreline Management Plan 2<br><br>Statement of Case for Imperative Reasons of Overriding Public | The key issues identified within the HRA relating to SMP policy are: <ul style="list-style-type: none"> <li>Loss of intertidal habitat through coastal squeeze;</li> </ul> | The issues surrounding the sea walls, re coastal squeeze and loss of terrestrial habitat is also addressed by the TE2100 Plan and supported by the Local Plan. |



| Competent authority/<br>Statutory Body | Title of HRA  | Findings of HRA Plan or Project   | Potential for in combination effects  |
|--|---|---|---|
|  | Interest (IROPI)<br>December 2011<br>Final version<br><u><a href="#">SMP8/essex and south suffolk smp statement of case for iropi final.pdf</a></u> | <ul style="list-style-type: none"> <li>• Loss of coastal grazing marsh and associated habitats within designated sites due to</li> <li>• managed realignment policies;</li> <li>• Loss of other freshwater or terrestrial habitats outside designated sites that may also</li> <li>• be used by qualifying species;</li> <li>• The importance of the interaction between estuaries and coastal habitat;</li> <li>• The requirement for the maintenance of habitat for bird species; and,</li> <li>• The requirement for a Statement of Case for IROPI.</li> </ul> <p>Some of the issues above were addressed to ensure that an adverse effect was avoided. However, the predicted loss of saltmarsh could not be prevented in all instances and a number of the defences fronting coastal grazing marsh were assessed as not sustainable. The HRA was therefore unable to conclude no adverse effect on the integrity of the above sites.</p> | Compensation habitats will be provided in advance of losses through the Environment Agency. |



| Competent authority/<br>Statutory Body | Title of HRA  | Findings of HRA Plan or Project   | Potential for in combination effects  |
|--|---|---|---|
|  |   | Taking account of the gains and losses of habitats within the Mid Essex Coast SPA and Ramsar site as a whole, some of the impacts would be mitigated through actions elsewhere (i.e. through creation of new habitats elsewhere within the wider site). Overall, however, there would still be adverse effect on integrity.                           |   |
| Environment Agency                     | River Basin Management Plan for the Anglian River Basin District.<br>Habitats Regulations Assessment<br>September 2022<br><a href="#"><u>River basin management plan for the Anglian River Basin District HRA</u></a> | At the strategic plan level, the RBMP is not likely to have any significant effects on any Habitats sites, alone or in combination with other plans or Projects.<br>The details of where and how the measures will be implemented are not available at this strategic plan stage. This limits the level of assessment that is possible at this stage. | No  |
| Environment Agency                     | Thames Estuary 2100 Plan<br><a href="#"><u>Working towards sustainability: Thames Estuary 2100 - GOV.UK</u></a>   | The HRA could not be found online.<br>Government website states:<br><br>We conducted an HRA in 2009. This showed that all options in Thames Estuary 2100 would have a significant impact on designated sites and features in the Thames Estuary. As a result, the   | There is a predicted adverse effect on integrity without mitigation from the TE2100 Plan alone. Compensation has already been discussed above. CP Local Plan policies support |





| Competent authority/<br>Statutory Body | Title of HRA  | Findings of HRA Plan or Project  | Potential for in combination effects                                |
|--|---|--|---|
|  |   | Plan included compensation for these, to maintain the integrity of the national site network. As the flood risk management policies remain the same, the impacts on habitat have not changed and we have not updated the HRA as part of this review.   | the TE2100 compensation proposals.                                  |
| Essex County Council                   | Essex CC Replacement Minerals Local Plan (2014)<br><br>Habitats Regulations Assessment for the Essex Minerals Local Plan, Adopted July 2014 (as amended 2021) | All Preferred Sites can be screened out as being unlikely to lead to a likely significant effect. All policies can also be screened out as being unlikely to lead to a significant effect. However, two recommendations have been made. The first is with regard to Policy S11 (Access and Transport) which could be included within the supporting text of the Plan. This recommendation concerns air quality impacts from traffic on European sites. | The relevant Habitats sites do not overlap for the impact pathways. |
| Essex County Council and Southend BC   | Essex CC and Southend-on-Sea BC Replacement Waste Local Plan (2017) -Habitats Regulations Assessment Screening Report (Place Services, January 2016)          | It is considered that indirect effects on European sites could be mitigated through strict control procedures, imposed through planning conditions or the pollution control regime. Should residual effects remain, in-combination effects are possible and various high-level plans have been highlighted.  | No  |



| Competent authority/<br>Statutory Body                       | Title of HRA  | Findings of HRA Plan or Project   | Potential for in combination effects  |
|--|---|---|---|
| Essex County Council   | Essex Local Transport Plan Update 3 Appropriate Assessment (2018)   | There are six transport schemes and five enhancement schemes that, without mitigation, have potential for AEOL. As the transport and enhancement schemes listed in Table 3 have not yet reached the design stage, it is recommended that in order for the LTP Update to progress, project level assessments are prepared when sufficient information is available in order to avoid an adverse effect on the integrity of any Habitats sites. | No  |
| Gravesham District Council                                   | Gravesham District Local Plan Scoping Report Final report. LUC, October 2020.<br><br>HRA of Local Plan Site Allocations and Development Management Policies Document (2013) | A strategic approach is in place for recreational disturbance.  | The Thames Estuary and Marshes SPA and Ramsar site are separated from Castle Point by the Thames Estuary with the nearest fixed link crossing point, the Dartford Tunnel a significant distance upstream. |
| Neighbourhood plans- Relevant District/Borough city councils | Neighbourhood plans Individual HRA screening / Appropriate Assessments  |   | Strategic mitigation for in combination impacts from recreational disturbance will be   |



| Competent authority/<br>Statutory Body                | Title of HRA  | Findings of HRA Plan or Project  | Potential for in combination effects  |
|---|---|--|---|
|   |   |  | delivered by Essex Coast RAMS   |
| Maldon District Council                               | Maldon District Local Development Plan: Maldon DC Local Development Plan Post Examination Sustainability Appraisal Report incorporating Strategic Environment Assessment and Habitats Regulations Assessment Final Report (Royal Haskoning DHV, March 2017) | HRA concluded that there are not expected to be significant effects on the integrity of these international sites, alone or in-combination with other plans or programmes, as a result of implementing the Maldon District LDP.  | None as strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS |
| Marine Management Organisation<br><br>(HM Government) | South East Marine Plan Habitats Regulations Assessment: Appropriate Assessment 2021<br><u><a href="#">South east Marine plan Habitats Regulations Assessment: Appropriate Assessment 2021</a></u>   | The MMO and SNCB expert steering group has concluded that, subject to the mitigation measures set out in this appropriate assessment, there will be no adverse effect on the integrity of any European site arising from the South East Marine Plan.<br><br>The AECOM report raised the following: | No  |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project  | Potential for in combination effects |
|--|--|--|--------------------------------------|
|  | MMO1188: Habitats Regulations Assessment for the North-East, North-West, South-East and South-West Marine Plans: Appropriate Assessment Information Report including Screening Report (AECOM, July 2019) | <p>Using the precautionary principle, adverse effects on integrity cannot be dismissed for most European sites until individual projects are devised and can be scrutinised in detail.</p> <p>There is a risk that issues which span the marine/coastal and terrestrial environment are overlooked because they fall between planning responsibilities.</p> <p>In-combination effects between the plans is likely so it is recommended that the supporting text for the access policies in the South East Marine Plan acknowledges the balance to be struck between supporting increased access to the coast and marine environment and potential conflicts with Habitats site conservation objectives. Particularly close attention will be given to ensuring any access provision schemes are compatible with conservation objectives and any existing or future recreational pressure mitigation strategies</p> |                                      |



| Competent authority/<br>Statutory Body | Title of HRA                      | Findings of HRA Plan or Project  | Potential for in combination effects  |
|--|-----------------------------------|--|---|
|  |                                   | devised by coastal local authorities e.g. Essex Coast RAMS.  |   |
| Neighbourhood Development Plans        | Individual Plan level HRA reports | All residential development within the Zone of Influence has been or will be considered by the relevant Borough Council and will be mitigated through project level AAs or under the strategic Essex Coast RAMS. | No  |
| Port of London                         | The Thames Vision                 | None available   | Sports Opportunity Zones identified through the PLA's work on its Vision for the Tidal Thames (The Thames Vision) (2016) have the potential to see increased usage as a result of this future growth. Whilst there are some existing facilities in this location which facilitate the use of the river for sport, growth may drive additional demand for such facilities, requiring enhancement or additional provision to occur which would lead to in combination impacts |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project   | Potential for in combination effects   |
|--|--|---|--|
|  |  |   | on coastal and estuarine Habitats sites.   |
| Rochford District Council              | Rochford Development Management Development Plan HRA Screening (Dec 2013)<br><u>Habitat Regulations Assessment – Adopted Allocations Plan 2014</u> | HRA Core Strategy.<br>None of the policies in the Pre Submission Development Management Document are likely to have significant impacts, either alone or in combination, on European sites.<br>The changes made post-consultation are also not considered likely to have a significant in-combination effect on European sites. | None as strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS. |
| Southend on Sea Council                | Revised Proposed Submission Southend on Sea Development Management DPD   | Sustainability Appraisal (including HRA) of the Revised Proposed Submission Southend on Sea Development Management DPD (Peter Brett Associates, March 2014)   | Strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS.         |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project   | Potential for in combination effects   |
|--|--|---|--|
| Swale Borough Council                  | Swale Borough Local Plan 2017<br>Habitats Regulations Assessment: Bearing Fruits 2031: The Swale Borough Local Plan: Proposed Main Modifications June 2016: <u>Microsoft Word - Swale LP HRA Amended Anna 090616 v2.docx</u> | The HRA's recommendations have now been incorporated into the relevant policies, and as such it is considered that the Proposed Main Modifications can be screened out (i.e. that they will not result in a Likely Significant Effect either alone or in combination), since they now provide a sufficient mechanism to require and facilitate the delivery of measures and safeguards to protect the European sites. | None as all of the Thames Estuary SPA and Ramsar site are separated from Castle Point by the Thames Estuary with the nearest fixed link crossing point, the Dartford Tunnel a significant distance upstream. |
| Tendring DC                            | Tendring District Local Plan<br>HRA of Tendring District Draft Local Plan Part (LUC, 2017)   |   | None as strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS.   |
| Thurrock Council                       | Thurrock Local Plan  | HRA of Thurrock Local Plan (LUC, Jan 2019)<br>Early stage report.   | None predicted for recreational disturbance as strategic mitigation for in combination impacts from recreational disturbance will be delivered by Essex Coast RAMS.  |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project  | Potential for in combination effects  |
|--|--|--|---|
| <b>Projects</b>                        |  |  |   |
| National Highways                      | <p>Lower Thames Crossing NSIP 6.5 Habitats Regulations Assessment Screening Report and Statement to Inform an Appropriate Assessment (Nov 2022)</p> <p>TR010032/APP/6.5 <u>Habitats Regulations Assessment and Statement to Inform an Appropriate Assessment</u></p> | <p>Table 7.21 provides a summary of the conclusions within the HRA, and Natural England's comment on their agreement with each conclusion. The list of conclusions is also used within the Statement of Common Ground (Application Document 5.4.1.6) which reports the positions of the Applicant and Natural England in relation to this matter.</p> <p>Reduction in habitat area- No AEOI as a result of: Changes in surface water quality and quantity – construction (southern tunnel entrance compound).</p> <p>Reduction in habitat area within FLL- No adverse effect on integrity as a result of: Land take in the terrestrial and aquatic environment within FLL. Conclusion is under discussion with Natural England see SoCG table 2.1 Item 2.1.93 Application Document 5.4.1.6</p> | <p>None as mitigation to avoid AEOI secured by the Development Consent Order and <u>Final Statement of Common Ground with Natural England</u> (December 2023)</p> |





| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project   | Potential for in combination effects |
|--|--|---|--------------------------------------|
|  |  | <p>Disturbance to species (within the Ramsar site and functionally linked land): No adverse effect on integrity as a result of: • Changes in noise and vibration – construction works and vehicles • Changes in visual disturbance – construction (people/machines in eyeline) • Changes in noise and vibration – operation • Changes in visual disturbance – operation (vehicles in eyeline). conclusion is under discussion with Natural England see SoCG table 2.1 Item 2.1.93 Application Document 5.4.1.6.</p> <p>No adverse effect on integrity as a result of: Changes in recreational disturbance at Tilbury Fields</p> |                                      |
| Natural England                        | <p>King Charles III England Coast Path: <u>The Nature Conservation Assessment Tilbury to Southend on Sea</u></p> <p>Habitats Regulations Assessment of England</p> | <p>Natural England is satisfied that its proposals to improve access to the English coast between Tilbury and Southend-on-Sea are fully compatible with their duty to further the conservation and enhancement of the notified features of Mucking Flats and Marshes, Vange and Fobbing Marshes, Holehaven Creek, Pitsea Marsh, and Benfleet and</p>  | No                                   |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project  | Potential for in combination effects   |
|--|--|--|--|
|  | Coast Path proposals between Southend-on-Sea and Wallasea Island 2019: <u>England Coast Path Stretch Report</u>  | Southend Marshes SSSIs consistent with the proper exercise of their functions.   |  |
| Secretary of State                     | Port of Tilbury extension NSIP HRA report (Jan 2019)   | With all the avoidance and mitigation measures secured in the DCO, including the DML, being implemented in full, will not adversely affect the integrity of the Thames Estuary and Marshes SPA, the Thames Estuary and Marshes Ramsar Site or the functionally-linked land associated with these sites either alone or in-combination with any other project or plans. | N/A  |
| Ministry of Defence                    | Shoeburyness Coastal Management Scheme Annex D Habitat Regulations Assessment (HRA) (Jacobs 2022b);<br>HRA cannot be found online but is referred to in the Construction Environmental | Specific reference and detail on exact works locations, detailed assessment of impacts, as well as proposed mitigation to compensate for loss, can be found in the HRA (Jacobs, 2022a)<br>Impacts to Essex Estuaries Special Area of Conservation (SAC); Foulness (Mid Essex Coast Phase 5) Special Protection Area (SPA); Foulness Wetland                            | No. Does not affect Water Quality of recreational Disturbance which are the only two issues for the Habitats sites listed. |



| Competent authority/<br>Statutory Body | Title of HRA   | Findings of HRA Plan or Project  | Potential for in combination effects |
|--|--|--|--------------------------------------|
|  | Management Plan (CEMP) for Biodiversity<br><u>discharge doc1_0.pdf</u>   | <p>of International Importance (Ramsar Site); and Blackwater, Crouch, Roach and Colne Estuaries Marine Conservation Zone (MCZ).</p> <p>The impacts on the international conservation sites comprise: - temporary noise and visual disturbance to qualifying bird species of the designated sites, - direct impact to notable plants and priority habitat. Construction works will cause such as increased noise, human activity and dust deposition. Could lead to degradation of habitat and indirect adverse effects on species it supports.</p> |                                      |
| Thurrock Council                       | <p>London Gateway Logistics Park (Former Coryton Oil Refinery)</p> <p>'Report to Inform a Habitats Regulations Assessment: London Gateway Logistics Park Local Development Order 2.0', August 2024</p> | It is recommended on the basis of the information available, that the Council formally determines that the proposed development to be permitted by LDO2 will not adversely affect the integrity of a European site or a European offshore marine site either alone or in combination with other plans or projects  | No                                   |



| Competent authority/<br>Statutory Body | Title of HRA  | Findings of HRA Plan or Project | Potential for in combination effects |
|--|---|---------------------------------|--------------------------------------|
|  | <u>Report+1+-<br/>+LDO2+Planning+Committee<br/>+Report+HRA+Dec+2024.pdf</u> |                                 |                                      |



### Recreational disturbance

- 5.9.4 The adopted Essex Coast RAMS secures financial contributions from all relevant residential developments for delivery of mitigation measures at coastal Habitats sites to avoid adverse effects on integrity. This is embedded mitigation in Policy SP4.
- 5.9.5 However, tourism related recreational disturbance is not currently within scope of the Essex Coast RAMS although Natural England has requested this is considered within the current Review of the strategic mitigation package. As Policy SP4 provides embedded mitigation, all tourism related strategies and planning applications will need to be supported by a project level HRA report.



**Table 33: Habitats sites in scope which could be affected by impacts from Recreational disturbance resulting from the Local Plan in combination with other plans and projects**

| Policy/ Site Allocation within scope for issues relating to recreational Disturbance      | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)?              |
|---|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|---|
| Strategic Policy SP2 - Making Effective Use of Urban Land and Creating Sustainable Places | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation of the Essex Coast RAMS, AEOI from residential development can be avoided.         |
| Strategic Policy SP3 – Meeting Development Needs  | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation of the Essex Coast RAMS and SP4, AEOI from residential development can be avoided. |
| Policy C1 - Canvey Town Centre  | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation of the Essex Coast RAMS and SP4, AEOI  |



| Policy/ Site Allocation within scope for issues relating to recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)?      |
|--|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|---|
|  |  |                                 |   |                     |                     |                         |   | from residential development can be avoided.  |
| Policy C2 - Canvey Seafront Entertainment Area                                       | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation in Policy SP4, AEOI can be avoided from tourism related development.       |
| Policy C6 - The South Canvey Green Lung  | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation in Policy SP4, AEOI can be avoided from tourism related development.       |
| Policy C7- Canvey Lake   | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation in Policy SP4, AEOI can be avoided.  |
| Policy C8 Residential Park Home Sites, Canvey Island                                 | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation of the Essex Coast RAMS, AEOI from residential development can be avoided. |



| Policy/ Site Allocation within scope for issues relating to recreational Disturbance | Benfleet and Southend Marshes SPA and Ramsar | Blackwater Estuary SPA & Ramsar | Crouch and Roach Estuaries SPA & Ramsar | Dengie SPA & Ramsar | Essex Estuaries SAC | Foulness SPA and Ramsar | Thames Estuary and Marshes SPA and Ramsar | Is there potential for Adverse Impacts to Habitats sites (depending on location of proposals)?      |
|--|--|---------------------------------|---|---------------------|---------------------|-------------------------|---|---|
| Policy C9 - Land at the Point, Canvey Island   | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation of the Essex Coast RAMS, AEOI from residential development can be avoided  |
| Policy C10 - Other Housing Site Allocations on Canvey Island                         | ✓  | ✓                               | ✓                                       | ✓                   | ✓                   | ✓                       | ✓   | With embedded mitigation of the Essex Coast RAMS, AEOI from residential development can be avoided. |





## **Re-applying the integrity test**

5.9.6 In light of the mitigation available, it is concluded that adverse effects on integrity from residential development can be avoided, in combination with other plans and projects.



## 6. Recommendations

- 6.1.1 This Appropriate Assessment has considered the ability of each policy and Allocated Site to avoid adverse effects on the integrity of Habitats sites, either alone or in combination with other plans and projects. It has recommended a number of amendments to the Castle Point Plan (Regulation 19 stage), including amendments and additions to policies and/or the Reasoned Justification text. These have been listed in the tables above, which make assessments for each potential impact pathway
- 6.1.2 Most of these have now been incorporated into the Local Plan through discussions with Castle Point Borough Council. There is additional text proposed for C9- Land at the Point, Canvey Island to add clarification and reduce ambiguity.
- 6.1.3 Table 34 below draws together these recommendations and sets them out policy by policy. It clarifies where the recommended text has been added to the Plan and summarises the need for it. It also clarifies whether adverse effects on site integrity can be avoided, with the proposed mitigation embedded.

**Table 34: Summary list of the AA's recommendations and amendments**

| Policy/ Site Allocation        | Recommendations for amendments to Policy text and/or Reasoned Justification  | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway   | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan? |
|--------------------------------|--|---|---|---|
| SP3 Meeting Development Needs  | The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required for windfall sites on Canvey Island at application stage in order to demonstrate no adverse effects on site integrity". | Mitigation is necessary to avoid AEOL from the following impact pathways: Functionally Linked Land, non-recreational and water quality (Windfall sites on Canvey Island), recreational disturbance and air quality. | Yes   | Yes   |
| Policy C1 - Canvey Town Centre | The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effect on site integrity".                                      | Mitigation is necessary to avoid AEOL from the following impact pathways:<br><br>Non-recreational disturbance, water quality and air quality.   | Yes   | Yes   |



| Policy/ Site Allocation                                | Recommendations for amendments to Policy text and/or Reasoned Justification   | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway   | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan? |
|--|---|---|---|---|
| Policy C2 - Canvey Seafront Entertainment Area         | The Reasoned Justification now includes: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".  | Mitigation is necessary to avoid AEOL from the following impact pathways:<br><br>Non-recreational disturbance and water quality.  | Yes   | Yes   |
| Policy C5- Improved Access to and around Canvey Island | Policy SD6 text now explicitly includes air quality.<br><br>The Policy and Reasoned Justification now require that any feasibility study for improvements to access to Canvey Island will be subject to Habitats Regulations Assessment to ensure there is no adverse effect on integrity to internationally protected sites. | Mitigation is necessary to avoid AEOL from the following impact pathways:<br><br>Functionally Linked Land, non-recreational disturbance, water quality and air quality. | Yes   | Yes   |



| Policy/ Site Allocation                      | Recommendations for amendments to Policy text and/or Reasoned Justification   | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway  | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan?  |
|--|---|--|---|--|
| Policy C9 - Land at the Point, Canvey Island | <p>Part d) of C9 now states: "Make provision for open space on-site to minimise any impact on Habitats site".</p> <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby Habitats sites".</p> | <p>Mitigation is necessary to avoid AEOL from the following impact pathways:</p> <p>Recreational disturbance, water quality and air quality.</p> | Yes   | <p>Yes. Additional text has been included to require avoidance of any AEOL. However, the preceding text in the Reasoned Justification only relates to recreational disturbance effects. Other effects may also be possible due to the close proximity with Benfleet and Southend Marshes SPA and Ramsar.</p> <p><b>Further adjustment to text is recommended:</b></p> <p>Amend text to: "A Habitats Regulations Assessment will be required of development proposals to avoid any adverse effects on the integrity of nearby</p> |



| Policy/ Site Allocation                                      | Recommendations for amendments to Policy text and/or Reasoned Justification   | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway                               | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan?   |
|--|---|---|---|---|
|  |   |   |   | Habitats sites, <u>including from construction impacts as well as occupational impacts.</u> |
| Policy C10 - Other Housing Site Allocations on Canvey Island | <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals at C10F: Ozonia Gardens and C10G: Land between Station Road and Seaview Road to avoid any adverse effect on the integrity of nearby Habitats sites or functionally linked land".</p> <p>Policy SD6 has been amended to explicitly include air quality.</p> | <p>Mitigation is necessary to avoid AEOL from the following impact pathway:</p> <p>Non-recreational disturbance and air quality.</p>    | Yes   | Yes   |
| Policy B7 – Other Housing Site Allocations in Benfleet       | <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of development proposals at B7A: Richmond Avenue Car Park to avoid any adverse effect</p>   | <p>Mitigation is necessary to avoid AEOL from the following impact pathways:</p> <p>Non-recreational disturbance and water quality.</p> | Yes   | Yes   |



| Policy/ Site Allocation                       | Recommendations for amendments to Policy text and/or Reasoned Justification   | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway             | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan? |
|---|---|---|---|---|
|   | on the integrity of nearby Habitats sites or functionally linked land.  |   |   |   |
| Policy Thun2 – Kiln Road Campus               | The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".   | Mitigation is necessary to avoid AEOL from the following impact pathway:<br>Recreational disturbance.                 | Yes   | Yes   |
| Policy Hou4 – Specialist Housing Requirements | The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".   | Mitigation is necessary to avoid AEOL from the following impact pathway:<br>Recreational disturbance.                 | Yes   | Yes   |
| Policy Hou5 - Park Homes                      | The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on sites integrity".<br>Policy SD6 has been amended to explicitly include air quality. | Mitigation is necessary to avoid AEOL from the following impact pathway:<br>Recreational disturbance and air quality. | Yes   | Yes   |



| Policy/ Site Allocation                             | Recommendations for amendments to Policy text and/or Reasoned Justification   | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway   | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan? |
|---|---|---|---|---|
| Policy E1- Development on Strategic Employment Land | The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of any new development at SEL4 (South Canvey Port Facilities), West Canvey and Canvey Town Centre to avoid any adverse effects on integrity of nearby Habitats sites or functionally linked land". | Mitigation is necessary to avoid AEOL from the following impact pathways:<br><br>Water quality (SEL3), Functionally Linked Land and water quality (SEL4) and non-recreational disturbance, water quality and air quality. | Yes   | Yes   |
| Policy E4 – Culture and Tourism                     | The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of any project aimed at attracting large visitor numbers to avoid any adverse effects on the integrity of nearby Habitats sites or functionally linked land".                                      | Mitigation is necessary to avoid AEOL from the following impact pathway:<br><br>Functionally Linked Land  | Yes   | Yes   |
| Policy GB1 – Development affecting the Green Belt   | The Reasoned Justification now states: "A Habitats Regulations Assessment will be required of any substantial new development within 2km of a Habitats site or Holehaven Creek SSSI (as   | Mitigation is necessary to avoid AEOL from the following impact pathways:   | Yes   | Yes   |





| Policy/ Site Allocation                                  | Recommendations for amendments to Policy text and/or Reasoned Justification  | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway  | With proposed mitigation embedded, can AEOI be avoided? | Have the recommendations been included in the Plan? |
|--|--|--|---|---|
|  | functionally linked land) to avoid any adverse effect on the integrity of nearby Habitats sites”.  | Functionally Linked Land and non-recreational disturbance  |   |   |
| Policy GB2 – Previously Developed Land in the Green Belt | The Reasoned Justification now states: “A Habitats Regulations Assessment will be required of any substantial new development within 2km of a Habitats site or Holehaven Creek SSSI (as functionally linked land) at application stage, to avoid any adverse effect on the integrity of nearby Habitats sites”.                                      | Mitigation is necessary to avoid AEOI from the following impact pathways:<br><br>Functionally Linked Land, non-recreational and recreational disturbance.                | Yes   | Yes   |
| Policy ENV2 – Coastal & Riverside Strategy               | The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity. The Riverside Strategy must be subject to a Habitats Regulations Assessment in order to demonstrate no adverse effects on site integrity.. This will need to take into | Mitigation is necessary to avoid AEOI from the following impact pathways:<br><br>Functionally Linked Land, non-recreational and recreational disturbance, water quality. | Yes   | Yes   |



| Policy/ Site Allocation          | Recommendations for amendments to Policy text and/or Reasoned Justification  | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway   | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan? |
|----------------------------------|--|---|---|---|
|                                  | account the Castle Point Plan when considering in combination effects.”  |   |   |   |
| Policy Infra4 – Open Spaces      | The Reasoned Justification now states: “A Habitats Regulations Assessment will be required at application stage for any facility near to Benfleet and Southend Marshes SPA or Holehaven Creek SSSI (as functionally linked land), in order to demonstrate no adverse effects on site integrity”.   | Mitigation is necessary to avoid AEOL from the following impact pathways:<br><br>Non-recreational disturbance, water quality.   | Yes   | Yes   |
| Policy T2 - Highway Improvements | T2 now states: “Any improvements to accessing Canvey Island must avoid any adverse effects on the integrity of Habitats sites”.<br><br>The Reasoned Justification now states: “.. further studies are required to explore this further. Any improvements to the access to Canvey Island must avoid any adverse effects on the integrity of Habitats Sites. A Habitats Regulations Assessment will be | Mitigation is necessary to avoid AEOL from the following impact pathways:<br><br>Functionally Linked Land, non-recreational disturbance, water quality and air quality. | Yes   | Yes   |



| Policy/ Site Allocation                  | Recommendations for amendments to Policy text and/or Reasoned Justification   | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway  | With proposed mitigation embedded, can AEOL be avoided?  | Have the recommendations been included in the Plan? |
|--|---|--|--|---|
|  | required to demonstrate no adverse effects on site integrity".  |  |  |   |
| Policy T3 - Active Travel Improvements   | <p>The Reasoned Justification now states: "A Habitats Regulations Assessment will be required at application stage in order to demonstrate no adverse effects on site integrity".</p> <p>Policy SD6 has been amended to include air quality.</p>  | Mitigation is necessary to avoid AEOL from the following impact pathway: Recreational disturbance and air quality.   | Yes  | Yes   |
| Policy SD1 - Tidal Flood Risk Management | The Reasoned Justification has been strengthened to explicitly state that Habitats sites should not be adversely affected. It now states: "Any development within Hadleigh Marshes should avoid causing adverse effects on sites' integrity or compensation will be required if imperative reasons of overriding public interest agreed by the Secretary of State at application stage. This will need to be demonstrated | Mitigation is necessary to avoid AEOL from the following impact pathways: Land take, Functionally Linked Land, non-recreational disturbance, water quality and quantity and air quality. | Currently unknown. Where the TE2100 Hadleigh Marshes project triggers Stage 3 and 4 HRA (IROPI) due to loss of terrestrial SPA habitat (land take), this will necessitate further areas of compensatory habitat elsewhere if | Yes   |



| Policy/ Site Allocation                      | Recommendations for amendments to Policy text and/or Reasoned Justification  | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway | With proposed mitigation embedded, can AEOL be avoided? | Have the recommendations been included in the Plan? |
|--|--|---|---|---|
|  | <p>through a project level Habitats Regulations Assessment.”</p> <p>and</p> <p>“Any works to retain or enhance sea walls, or within the 19m safeguarded buffer zone, should avoid causing adverse effects on site integrity. This will need to be demonstrated through a project level HRA.”</p> |   | agreed by SoS at application stage.                     | Yes   |
| Policy SD2 - Non-Tidal Flood Risk Management | The Reasoned Justification now states: “All developments on Canvey Island will need to avoid any adverse effects on site integrity. A Habitats Regulations Assessment will be required at application stage to demonstrate no adverse effects on site integrity”.                                | Mitigation is necessary to avoid AEOL from the following impact pathways:<br>Water quality and quantity.  | Yes   | Yes   |
| Policy SD6 - Pollution Control               | Policy text has now been amended to explicitly include air quality in Part 4. i.e.   | Mitigation is necessary to avoid AEOL from the following impact pathways:                                 | Yes   | Yes   |



| Policy/ Site Allocation | Recommendations for amendments to Policy text and/or Reasoned Justification  | Rationale for Proposed Amendments to avoid adverse impacts on site integrity from relevant impact pathway | With proposed mitigation embedded, can AEOI be avoided? | Have the recommendations been included in the Plan? |
|-------------------------|--|---|---|---|
|                         | <p>“These plans shall include details of the proposed mitigation measures that will be implemented to prevent undue noise and disturbance to adjoining occupiers and Habitat Sites and the entry of pollutants into the environment by all potential pathways including, but not limited to watercourses (including when dry) <u>and air</u>”.</p> <p>Reasoned Justification is now amended to include “...the impact of development on water quality is managed to ensure that there is no adverse effect to the integrity...”.</p> | Water quality and quantity and air quality.   |   |   |



## 7. Conclusion

- 7.1.1 This Habitats Regulations Assessment (HRA), including Appropriate Assessment, has considered the potential impacts on Habitats sites likely to result from the Castle Point Plan Regulation 19 and has made a number of recommendations to enable the Plan to avoid adverse effects on the integrity of any Habitats sites, either alone or in combination with other plans and projects. These recommendations have been incorporated into the Local Plan as it has been developed.
- 7.1.2 In applying the HRA Test 2 –i.e. the integrity test at Appropriate Assessment (AA) stage - based on the development type and proximity to Habitats sites, the potential for in combination effects resulting from other plans or projects has been assessed and avoidance and/or mitigation measures have been considered.
- 7.1.3 The Local Plan has embedded mitigation within the Reasoned Justification for SD1 to avoid Adverse Effects on Integrity from planned tidal flooding stemming from the Thames 2100 Plan, as this is supported by Policy SD1. It is recognised that compensation will be required for the loss of terrestrial habitat within Benfleet and Southend Marshes SPA and Ramsar site.
- 7.1.4 With mitigation now embedded, this HRA report -including Appropriate Assessment- indicates that the Castle Point Plan is not predicted to have any Adverse Effect On site Integrity on any Habitats sites, either alone or in combination with other plans and projects.
- 7.1.5 The summary list of the AA's recommendations and amendments is provided in Chapter 6.
- 7.1.6 This decision is reliant on the application of a number of mitigation measures:
- Preparation of HRAs for the strategies, masterplans and project-level HRAs which should use of best available evidence for future HRAs.
  - Specific policies to embed mitigation measures into the Castle Point Plan.
  - Use of strict pollution control measures, enforced by measures such as CEMPs.
  - Collaboration with other terrestrial and marine authorities who are also responsible for licensing and permitting in the area.
  - Monitoring of the Castle Point Plan, particularly for water quality.
  - Use of the Essex Coast RAMS to provide strategic measures for in combination recreational disturbance.
- 7.1.7 Since it is not possible to rule out adverse effects on the integrity of many Habitats sites without mitigation due simply to the high-level nature of the Castle Point Plan policies, 'down-the-line' assessment becomes essential. Thus, the requirement for project level



HRAs have been explicitly enshrined in the Castle Point Plan. This is to ensure that developers and decision-makers are aware of the need for project-level HRAs (even if only to confirm no likely significant effect), particularly for the highlighted policies, and that HRAs must consider effects in combination with other plans and projects. It is not sufficient to rely on a general policy aimed at protecting Habitats sites. Instead, explicit caveats need to be included where there may be conflicts between a general policy to protect Habitats sites from development and another policy.

- 7.1.8 Use of the best available evidence must be used when producing these project-level HRA,s for all future related masterplans, strategies and schemes . They must be completed in the context of the latest scientific knowledge and evidence base that is available at the time of the assessment.
- 7.1.9 The risk of issues which span the terrestrial and marine/coastal environments and cut across the LPA and other bodies controlling the water environment, should be recognised and not overlooked to ensure that they do not fall between planning/ licensing responsibilities, e.g. with respect to port development; water management; and recreational disturbance.
- 7.1.10 Castle Point Plan monitoring provision will provide further mitigation. Whilst monitoring is not mitigation in itself, it allows details to be provided about how the Plan has been applied and informs the formal reporting cycle.



## 8. References

- AECOM (April 2018). South Essex Level 1 Strategic Flood Risk Assessment. Can be viewed at: [South Essex Strategic Flood Risk Assessment | CastlePoint](#)
- Air Pollution Information System - [www.apis.ac.uk](http://www.apis.ac.uk)
- Anglian Water (December 2022) Draft WRMP24 Non-technical Summary- Our Water Resources Management Plan 2024. Available at: <https://www.anglianwater.co.uk/siteassets/household/about-us/wrmp/draft-wrmp24-non-technical-summary.pdf>
- Anglian Water (June 2022) Draft Drainage and Wastewater Management Plan. Available at: <https://www.anglianwater.co.uk/siteassets/household/about-us/dwmp-draft.pdf>
- Anglian Water (June 2022) Draft Drainage and Wastewater Management Plan (Technical Document). Available at: <https://www.anglianwater.co.uk/siteassets/household/about-us/dwmp-draft-technical-document.pdf>
- Castle Point 2024 Air Quality Annual Status Report can be viewed at: [Local Authorities | Essex Air](#)
- Castle Point, Basildon and Rochford councils. South Essex Outline Water Cycle Study Technical Report Final September 2011. Can be viewed at: [Microsoft Word - South Essex WCS Final Sep 2011 FINAL.doc](#)
- DAC. Castle Point Infrastructure Delivery Plan Baseline Review 2024. Can be viewed at [download.cfm](#)
- Environment Agency. Canvey Island Southern Shoreline Project Environmental Assessment Report. Available at: [Report Template Standard Para](#)
- Environment Agency. National Review of Statutory Habitat Compensation Associated with Flood and Coastal Risk Management Activity Progress Report (January 2011) can be found at: [Document template: green report](#)
- Environment Agency. South Essex Catchment Flood Management Plan Summary Report December 2009- Managing Risk. Can be viewed at: [South Essex Catchment Flood Management Plan.pdf](#)
- Essex County Council and Essex Highways. Local Transport Plan. Can be viewed at: [Local Transport Plan | Essex County Council](#)
- Essex Air Quality Map. Available at: [Air Quality Map | Essex Air](#)





- Essex Air Quality Strategy, Essex Air (Draft). Available at: [https://cdn.cms42.com/essexair/reports/Strategy/essex\\_air\\_quality\\_strategy\\_web\\_version.pdf](https://cdn.cms42.com/essexair/reports/Strategy/essex_air_quality_strategy_web_version.pdf)
- Essex County Council. Water Strategy for Essex 2024 can be viewed at: [Water strategy for Essex 2024](#)
- Essex and Suffolk Water (2022) Drought Plan 2022. Available at: <https://www.nwg.co.uk/droughtplan>
- Gov.uk (May 2019) Pollution Prevention for Businesses. Available at: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>
- Habitats Regulations Assessment (Appropriate Assessment) for XXXXX
- IAQM. A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites v1.0 (June 2019). Available from <https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2019.pdf>
- Hemingway, K & Spencer, J (2013) Waterbird Disturbance Mitigation Toolkit Informing Estuarine Planning & Construction Projects, Institute of Estuarine & Coastal Studies (IECS) University of Hull
- National Highways Design Manual for Roads and Bridges (DMRB) -LA 105 -Air quality (vertical barriers) (formerly HA 207/07, IAN 170/12, IAN 174/13, IAN 175/13, part of IAN 185/15), Version 0.1.0, can be viewed at: [HTML Document View](#)
- Natural England. June 2018. Available at: [\(Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001](#)
- Natural England (2014) Conservation objectives for European Sites. Available at: <http://publications.naturalengland.org.uk/category/6581547796791296>
- Natural England (2024) RP04518 Edition 1 Compilation and Review of Evidence Leading to SANG and SAMM Provision available at [RP04518 Edition 1 Compilation and Review of Evidence Leading to SANG and SAMM Provision - RP04518](#)
- [Place Services \(2018\) Essex Coast Recreational disturbance Avoidance and Mitigation Strategy \(RAMS\)](#)
- Place Services (May 2024) Emerging Castle Point Plan Regulation 18 – Issues and Options Habitats Regulations Assessment Scoping Report can be viewed at: [habitats-regulations-assessment-scoping-report-2024.pdf](#)
- Place Services (September 2020) New Castle Point Plan Pre-submission Plan 2018-2033 for Castle Point Borough Habitats Regulations Assessment (Screening Report and Appropriate Assessment)



- Stevens, C.J.; Maskell, L.C. ; Smart, S.M.; Caporn, S.J.M. ; Dise, N.B.; Gowing, D.J. 2009 Identifying indicators of atmospheric nitrogen deposition impacts in acid grasslands Biological Conservation 142 2069-2075
- Thames Estuary 2100 (TE2100) Thames Estuary 2100 (TE2100) - GOV.UK
- Tydlesley, D., and Chapman, C. (2013) The Habitats Regulations Assessment Handbook, (Feb 2019) edition UK: DTA Publications Limited. Available at: <https://www.dtapublications.co.uk/>



## 9. Appendix

### Appendix 1.HRA Screening of Individual Policies & Potential Development Sites outside of and within the Green Belt

#### Policies & Potential Development Sites outside of the Green Belt

Where mitigation is necessary to avoid Likely Significant Effects (LSE), then in line with CJEU *People over Wind* court ruling, this cannot be taken into consideration at HRA Screening Stage 1. Any policies providing mitigation are therefore also carried forward to Stage 2 Appropriate Assessment.

| Policy                                | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)? |
|---------------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Forward, Introduction, Policy Context | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Administrative text and general aspirations.   |
| Vision                                | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General statement of policy/<br>general aspiration.  |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)? |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Objectives  | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General statement of policy/<br>general aspiration.  |
| Policy SP1 – Supporting Enhancement of the Borough’s Green Spaces               | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide environmental protection / general aspiration.                               |
| Policy SP2 - Making Effective Use of Urban Land and Creating Sustainable Places | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Policy listing general criteria for testing the acceptability/<br>sustainability of proposals. |
| Policy SP3 – Meeting Development Needs  | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | Yes. Screen in.<br>Policy sets out development needs and provision for housing                                    |



| Policy                                 | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | supply and employment. Includes green belt and grey belt.<br>Policy has potential for LSE alone or in combination. Water and air pollution; recreation and non-recreational disturbance, FLL.      |
| Policy SP4 - Development Contributions | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Policy cannot lead to development or other change.  |
| Policy C1 - Canvey Town Centre         | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>The outcome of the policy at this stage is uncertain due to the requirement of subsequent masterplan and additional plans and strategies, which are a consequence of this Plan. |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | Includes of minimum 200 homes and new commercial floorspace. Location specific policy has potential for LSE alone or in combination. Water and air pollution; recreational disturbance.   |
| Policy C2- Canvey Seafront Entertainment Area | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>The outcome of the policy at this stage is uncertain due to the requirement of subsequent masterplan, which are a consequence of this Plan. Commercial and leisure development proposals to support the tourist industry. A Riverside Strategy will be produced. Just over 700 m from SPA. |



| Policy                             | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|------------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|                                    |                                       |  |                                    |                            |                              |                                    |                     |                  | Location specific policy has potential for LSE alone or in combination. Water pollution; recreational and non-recreational disturbance.  |
| Policy C3 - Canvey Port Facilities | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | <p>Yes. Screen in.</p> <p>Located close to Holehaven Creek SSSI (FLL) and opposite side of River Thames from South Thames Estuary and Marshes SPA. NB Policy specifically refers to ENV4.</p> <p>Location specific policy has potential for LSE alone or in combination. Water and air pollution; non-recreational disturbance; FLL.</p> |



| Policy                  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|-------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy C4 - West Canvey | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | ✓                   | X                | <p>Yes. Screen in.</p> <p>The outcome of the policy at this stage is uncertain due to the requirement of subsequent masterplan- which is a consequence of this Plan - to include residential, community, commercial and industrial uses.500-1000 homes. Located close to Holehaven Creek SSSI (FLL) and opposite side of River Thames from South Thames Estuary and Marshes SPA.</p> <p>NB, a HRA will be required for masterplan and associated development.</p> |





| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | <p>Located in or near to potential FLL.</p> <p>Location specific policy has potential for LSE alone or in combination. Water and air pollution; recreational and non-recreational disturbance; FLL.</p>  |
| Policy C5 - Improved Access to and around Canvey Island | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | ✓                   | X                | <p>Yes. Screen in.</p> <p>The outcome of the policy at this stage is uncertain due to the requirement of a subsequent feasibility study to set out options. Canvey is located adjacent to to Benfleet and Southend Marches SPA, on opposite side of River Thames from South Thames Estuary and Marshes SPA and</p> |



| Policy                                  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | adjacent to Holehaven Creek SSSI (FLL).<br>C5 requires that a HRA will be required for the feasibility study.<br>Location specific policy has potential for LSE alone or in combination. Water and air pollution; recreational and non-recreational disturbance; FLL. |
| Policy C6 - The South Canvey Green Lung | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Discourages development but would allow solar arrays. In this circumstance the Policy specifies that a HRA would be required to demonstrate no AEOI.<br>Location specific policy has potential for LSE alone or in                                 |



| Policy                 | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|                        |                                       |  |                                    |                            |                              |                                    |                     |                  | combination. Water pollution; recreational and non-recreational disturbance; FLL.   |
| Policy C7- Canvey Lake | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | <p>Yes. Screen in.</p> <p>C.680m at closest point to SPA and may have hydrological connectivity.</p> <p>Likely to be a positive policy to improve water quality and quantity and also includes encouraging recreational activity to the area.</p> <p>Policy has potential for LSE on a site alone or in combination. Water pollution; non-recreational disturbance.</p> |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy C8 Residential Park Home Sites, Canvey Island | ✓                                     | ✓                                      | X                                  | X                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Location specific policy has potential for LSE on a site alone or in combination.<br>Water and air pollution; recreational and non-recreational disturbance; FLL.   |
| Policy C9 - Land at the Point, Canvey Island         | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Located c135m from SPA at closest point.<br>C9 has specific requirement to make provision for open space to divert residents away from the nearby Habitats Site.<br>According to Google imagery, the grassland between the site and |



| Policy                          | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|                                 |                                       |  |                                    |                            |                              |                                    |                     |                  | <p>the sea wall appears to be fairly intensively managed and used by people. This grassland is unlikely to support significant numbers of qualifying species.</p> <p>Existing housing and houseboats, fishing boats and sailing boats on seaward side of wall creates disturbance.</p> <p>Location specific policy has potential for LSE on a site alone or in combination.</p> <p>Water and air pollution; recreational and non-recreational disturbance.</p> |
| Policy C10 - Other Housing Site | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.  |



| Policy                                 | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Allocations on Canvey Island.          |                                       |  |                                    |                            |                              |                                    |                     |                  | Location specific policy has potential for LSE alone or in combination.<br><br>Water and air pollution; recreational and non-recreational disturbance.  |
| Policy B1 – South Benfleet Town Centre | ✓                                     | X                                      | X                                  | X                          | X                            | X                                  | ✓                   | X                | Yes. Screen in.<br>Within IRZ.<br>South Benfleet Town Centre is located close to Benfleet and Southend Marshes SPA and East Haven Creek, and regeneration, redevelopment is being encouraged.<br>Location specific policy has potential for LSE in combination. |



| Policy                                    | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | Water pollution; recreational disturbance.   |
| Policy B2 – Tarpots Town Centre           | ✓                                     | X                                      | ✓                                  | X                          | X                            | X                                  | X                   | X                | Yes. Screen in<br>Not within IRZ. Potential water course connectivity to Benfleet and Southend Marshes SPA.<br>Within existing urban area.<br>Location specific policy has potential for LSE in combination.<br>Water pollution. |
| Policy B3 – Former Furniture Kingdom site | ✓                                     | ✓                                      | X                                  | X                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in<br>Not within IRZ but residential (at least 48 homes). Potential water course connectivity to Benfleet and Southend Marshes SPA.  |



| Policy                                     | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | Location specific policy has potential for LSE in combination. Water pollution; recreational disturbance.  |
| Policy B4 - South Benfleet Leisure Quarter | ✓                                     | ✓                                      | X                                  | X                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in. Within IRZ. Area is located close to Benfleet and Southend Marshes SPA and East Haven Creek, and development is being encouraged. Location specific policy has potential for LSE alone or in combination. Water pollution; recreational disturbance. |





| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy B5 – Canvey Supply, London Road, Benfleet | ✓                                     | ✓                                      | X                                  | X                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Residential development (at least 80 homes).<br>Not within IRZ.<br>Location specific policy has potential for LSE in combination.<br>Recreational disturbance |
| Policy B6 – 159-169 Church Rd                    | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | X                                  | ✓                   | X                | Yes. Screen in.<br>Residential development (at least 22 homes).<br>Not within IRZ.<br>Location specific policy has potential for LSE in combination.<br>Recreational disturbance |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy B7 – Other Housing Site Allocations in Benfleet | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Within IRZ.<br>Areas are located close to Benfleet and Southend Marshes SPA and East Haven Creek.<br>Possible hydrological connectivity.<br>Location specific policy has potential for LSE alone or in combination. Water pollution; recreational and non-recreational disturbance. |
| Policy B8 – Manor Trading Estate                       | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Not within IRZ.<br>Possible hydrological connectivity.  |



| Policy                                    | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | Policy has potential for LSE alone or in combination. Water pollution; recreational disturbance.  |
| Policy B9 – South Benfleet Playing Fields | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Within IRZ. Policy encourages recreation and water retention.<br>Possible hydrological connectivity.<br>Location specific policy has potential for LSE alone or in combination. Water pollution; recreational disturbance. |
| Policy Had1 – Hadleigh Town Centre        | ✓                                     | ✓                                      | X                                  | X                          | ✓                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Within IRZ.<br>The outcome of the policy at this stage is uncertain due to the requirement of subsequent   |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | masterplan and additional strategies. Includes leisure, community facilities, residential, employment and cultural. Minimum 200 homes. Location specific policy has potential for LSE alone or in combination. Water pollution; recreational disturbance. |
| Policy Had2 - Hadleigh Country Park, Hadleigh Farm and Benfleet and Southend Marshes | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in. Positive policy which encourages habitat creation, management and mitigation with specific regard to the Southend and Benfleet Marshes SPA and Ramsar site. Therefore, needs to be considered   |



| Policy                        | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|-------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|                               |                                       |  |                                    |                            |                              |                                    |                     |                  | at AA stage. Also supports recreation and agricultural uses. Within IRZ.<br>Location specific policy has potential for LSE alone or in combination.<br>Potential for recreational disturbance. |
| Policy Had3 – Hadleigh Clinic | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Minimum 11 homes. Within IRZ.<br>Location specific policy has potential for LSE alone or in combination. Water pollution; recreational disturbance.                         |



| Policy                                 | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?                                      |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy Had4 - Land south of Scrub Lane | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Not within IRZ.<br>Minimum 80 homes.<br>Location specific policy has potential for LSE in combination.<br>Recreational disturbance. |
| Policy Thun1 – Thundersley Village     | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Within IRZ.<br>Location specific policy has potential for LSE alone or in combination. Recreational disturbance.                    |
| Policy Thun2 - Kiln Rd Campus          | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Within IRZ.   |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | The outcome of the policy at this stage is uncertain due to the requirement of subsequent masterplan and additional strategies. Includes leisure, shopping, community facilities and residential. Minimum 617 homes. Location specific policy has potential for LSE in combination. Water pollution; recreational disturbance. |
| Policy Thun 3 - Other Site Allocations in Thundersley | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in. Residential proposals. Location specific policy has potential for LSE in combination. Water pollution and recreational disturbance.  |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy Thun 4- Green Space Connectivity in Thundersley | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Partly within IRZ. Embedded mitigation.<br>Encourages recreation (which would draw people away from the Habitats sites) and habitat restoration, enhancement and creation.<br>Part of overall greenspace strategy. Positive LSE which will not undermine the Conservation Objectives of any Habitats sites. |
| Policy Thun5 – Coalescence of Thundersley and Benfleet | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria based policy to ensure that the separation between   |



[illegible]



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?                          |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Settlements – Daws Heath                       |                                       |  |                                    |                            |                              |                                    |                     |                  | Criteria based policy to ensure that the separation between Daws Heath and surrounding towns is retained.<br>It cannot itself lead to LSE. |
| Policy Hou1 - Preventing the Loss of Housing   | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria based policy to protect existing housing stock.<br>It cannot itself lead to LSE.                               |
| Policy Hou2 - Securing More Affordable Housing | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | No. Screen out.<br>Criteria based policy regarding types and sizes of homes.<br>It cannot itself lead to LSE.                              |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy Hou3 – Housing Type and Mix            | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria based policy regarding percentages of affordable homes.<br>It cannot itself lead to LSE.   |
| Policy Hou4 – Specialist Housing Requirements | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Criteria based policy regarding provision of specialist housing requirements e.g. care homes; specialist accommodation for vulnerable adults and residential care homes for children.<br>Policy has potential for LSE alone or in combination. Water pollution; recreation and non-recreational disturbance, FLL. |



| Policy                                      | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy Hou5 - Park Homes                    | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | <p>Yes. Screen in.</p> <p>Criteria based policy regarding provision of park homes. Some locations are adjacent or near to SPA.</p> <p>Policy has potential for LSE alone or in combination. Water and air pollution; recreation and non-recreational disturbance, FLL.</p> |
| Policy Hou6 - Gypsy and Traveller Provision | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | <p>Yes. Screen in.</p> <p>Location based policy has potential for LSE alone or in combination.</p> <p>Water and air pollution; recreational and non-recreational disturbance, FLL.</p>   |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy E1- Development on Strategic Employment Land | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Some within IRZ.<br>Encourages development on four sites (West Canvey, Canvey town centre, Hadleigh town centre and Manor Trading Estate), two of which are on Canvey Island and close to Habitats sites or FLL.<br>Location specific policy has potential for LSE alone or in combination. Water and air pollution; non-recreational disturbance, FLL. |
| Policy E2- Development of New Employment            | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Some within IRZ.  |



| Policy                                  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Floorspace in and around Town Centres   |                                       |  |                                    |                            |                              |                                    |                     |                  | Encourages development near to town centres.<br><br>Location specific policy has potential for LSE in combination. Water pollution; non-recreational disturbance.   |
| Policy E3 - Development of Local Skills | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out<br>General criteria-based policy regarding upskilling of local community, funded by developments.<br>Also supports education and skills training infrastructure, including on Canvey.<br>It cannot itself lead to LSE. |



| Policy                          | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy E4 – Culture and Tourism | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Policy encourages development to support tourism including Canvey seafront; Hadleigh Castle and Country Park and walking/hiking opportunities through and to Hadleigh and Thundersley.<br>Policy has potential for LSE alone or in combination. Water pollution; recreation and non-recreational disturbance, FLL. |
| Policy TC1 - Town Centres       | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Policy supports development in town centres.<br>Policy has potential for LSE alone or in combination. Water and air  |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | pollution; recreation and non-recreational disturbance, FLL.   |
| Policy TC2 - Local Shopping Parades                   | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Policy has potential for LSE in combination<br>Policy allows for additional residential development.<br>Recreational disturbance.                                       |
| Policy TC3 - Retail Parks and Out of Centre Locations | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>One of two Out of Centre Retail Parks are located at West Canvey.<br>Regeneration is supported.<br>Location based policy has potential for LSE alone or in combination. |





| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?           |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | Water and air pollution; non-recreational disturbance, FLL.   |
| Policy TC4 - Protecting Local Shops                   | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria based policy that could not conceivably lead to LSE.  |
| Policy TC5 – Hot Food Takeaways and Fast-Food Outlets | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria based policy for testing the acceptability of the proposals; could not conceivably lead to LSE. |
| Policy D1 – Design Objectives                         | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Design criteria-based policy that could not conceivably lead to LSE.                                     |
| Policy D2 - Design on Larger Sites and                | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Design criteria-based policy that could not conceivably lead to LSE.                                     |



| Policy                              | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|-------------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| within Premium Sustainability areas |                                       |  |                                    |                            |                              |                                    |                     |                  |  |
| Policy D3 - Master Planning         | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>The outcome of the policy at this stage is uncertain.<br>“The approved masterplan will accord significant weight in the determination of any subsequent planning applications by the Council “<br>Criteria-based policy that could not conceivably lead to LSE. |
| Policy D4 – Landscaping             | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Design criteria-based policy that could not conceivably lead to LSE.  |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?                  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | General plan-wide positive policy to conserve and enhance the environment.   |
| Policy D5 - Advertisements                                  | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria-based policy for testing the acceptability of the proposals; could not conceivably lead to LSE.        |
| Policy D6 - Residential Annexes                             | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria based policy for testing the acceptability of the proposals; could not conceivably lead to LSE.        |
| Policy D7 - The Appearance of Town Centre Business Premises | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Design criteria-based policy for testing the acceptability of the proposals; could not conceivably lead to LSE. |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy D8 - Public Art   | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Design criteria-based policy that could not conceivably lead to LSE.   |
| Policy D9 - Conserving and Enhancing the Historic Environment. | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Criteria-based policy that could not conceivably lead to LSE.<br>Positive policy to conserve and enhance the environment.  |
| Policy GB1 – Development affecting the Green Belt              | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Due to the proximity of some of the Green Belt and Grey Belt to Habitats sites, sufficient mitigation is required.<br>Policy has potential for a LSE on a site alone or in combination with this mitigation. |

[illegible]



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Enhancing the Landscape and Landscape Features |                                       |  |                                    |                            |                              |                                    |                     |                  | Design criteria-based policy that could not conceivably lead to LSE. Positive policy to conserve and enhance the environment.   |
| Policy ENV2 – Coastal & Riverside Strategy     | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | <p>Yes. Screen in.</p> <p>Policy supports a Coastal &amp; Riverside Strategy intended to be created jointly with other organisations and separately from this Plan.</p> <p>This HRA anticipates that the Strategy would be subject to its own HRA.</p> <p>Policy has potential to result in a LSE on a site alone or in combination without mitigation. Due to the current uncertainties,</p> |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | this should be considered at AA stage.<br>Water pollution; recreation and non-recreational disturbance, FLL.   |
| Policy ENV3 – Securing Nature Recovery and Biodiversity Net Gain | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | ✓                | No. Screen out.<br>Policy aims to protect Habitats sites from potential adverse effects arising from Plan. Positive LSE which would not undermine the Conservation Objectives of any Habitats sites.<br>Policy includes measures to avoid or reduce harmful effects on Habitats sites. |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)? |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy ENV4 - Local Wildlifes and Geological Sites        | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide positive policy to conserve and enhance biodiversity.                        |
| Policy ENV5 - Design Features that Encourage Biodiversity | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide positive policy to conserve and enhance biodiversity.                        |
| Policy ENV6 – Best and Most Versatile Agricultural Land   | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide positive policy to protect the best and most versatile agricultural land.    |
| Policy Infra1 - Community Facilities                      | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide criteria-based policy.   |





| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy Infra2 – Education, Skills and Learning | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide criteria-based policy.   |
| Policy Infra3 - Improving Health and Wellbeing | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide criteria-based policy.   |
| Policy Infra4 – Open Spaces                    | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | General plan-wide criteria-based policy. However, it may provide mitigation. Therefore, consider at AA.<br><br>Water pollution; recreation and non-recreational disturbance, FLL. |
| Policy Infra5 - Indoor Leisure and Sports      | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide criteria-based policy.   |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy Infra6 - Communications Infrastructure | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>General policy which has potential for a LSE on a site alone or in combination without mitigation.<br>Water pollution, non-recreational disturbance, FLL.                          |
| Policy T1 - Transport Strategy                | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>General policy which has potential for a LSE on a site alone or in combination without mitigation.<br>Water and air pollution, non-recreational and recreational disturbance, FLL. |



| Policy                                 | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Policy T2 - Highway Improvements       | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>General policy which has potential for a LSE on a site alone or in combination without mitigation.<br>Land is safeguarded for new road at West Canvey.<br>Water and air pollution, non-recreational and recreational disturbance, FLL. |
| Policy T3 - Active Travel Improvements | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>General policy which has potential for a LSE on a site in combination without mitigation.<br>Water and air pollution, non-recreational and recreational disturbance, FLL.  |

[illegible]



| Policy                                   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | General plan-wide criteria-based policy.   |
| Policy T8 - Access for Servicing         | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General plan-wide criteria-based policy.<br>Location would near existing infrastructure.  |
| Policy SD1 - Tidal Flood Risk Management | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes, Screen in.<br>Flood defence measures on and adjacent to SPA and FLL.<br>May include case specific proposals intended to avoid or reduce harmful effects on a Habitats site.<br>Policy has potential for LSE alone or in combination and may require |



| Policy                                       | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | mitigation measures; therefore take to to AA.<br>Land take, water and air pollution, water quantity, non-recreational and recreational disturbance, FLL. |
| Policy SD2 - Non-Tidal Flood Risk Management | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes. Screen in.<br>Policy has potential for LSE alone or in combination. Mitigation measures; therefore go to AA.<br>Water pollution and water quantity. |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy SD3 - Sustainable Urban Drainage Systems (SUDS)     | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Policy aims to ensure surface water is managed more effectively through SuDS. Provides embedded mitigation.<br>Potential for LSE alone or in combination. Water Quality.<br>This provides mitigation and therefore take to AA. |
| Policy SD4 – Net Zero Carbon Development (In Operation)    | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out<br>Criteria based policy which cannot itself lead to developments causing LSE.  |
| Policy SD5 - Net Zero Carbon Development (Embodied Carbon) | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out<br>Criteria based policy which cannot itself lead to developments causing LSE   |



| Policy                         | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Policy SD6 - Pollution Control |                                       | ✓                                      |                                    |                            |                              | ✓                                  |                     |                  | <p>Policy includes measures to avoid or reduce harmful effects on the environment resulting from water and air pollution, noise and disturbance, including requirement for no 'significant adverse effect upon the environment'.</p> <p>It includes potential embedded mitigation measures including a Construction Environment Management Plan (CEMP) for major applications which could provide mitigation for Habitats sites.</p> <p>Need for HRA is referred to in the reasoned justification.</p> |





| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | Therefore, it needs to be considered at AA stage.  |
| Policy SD7 - Development on Contaminated Land | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>General criteria-based policy to ensure that the public and environment would not be adversely affected by development on contaminated land.<br>No LSE. |
| Policy SD8 - Developments near Hazardous Uses | X                                     | X                                      | X                                  | X                          | X                            | X                                  | X                   | X                | No. Screen out.<br>Policy relates to the two hazardous installations on the south of Canvey Island.<br>A general in principle policy to prevent development near           |



| Policy                                    | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | hazardous installations for health and safety reasons.<br>No LSE.   |
| Policy SD9 – Water Supply and Waste Water | ✓                                     |  |                                    |                            |                              | ✓                                  |                     |                  | Screen in.<br>Policy seeks to address water shortages and water quantity and quality, in line with the Water Strategy for Essex and <u>Environmental Improvement Plan</u> .<br>Policy includes measures to avoid or reduce harmful effects on the environment resulting from water pollution.<br>It includes potential mitigation measures by aiming to ensure that there is adequate capacity at water recycling centres. Use of |



| Policy | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?                       |
|--------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|        |                                       |  |                                    |                            |                              |                                    |                     |                  | improvements to new homes, Water Recycling Centres, SuDS. Water quality and quantity. Therefore, it needs to be considered at AA stage. |



## Potential development sites within the Green Belt

Potential development sites in the Green Belt were also screened and are included in the Table below.

| Policy                       | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Site GB1 West of Canvey Road | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located on west Canvey. On or near to potential FLL.<br>Policy has potential for a LSE on a site alone or in combination.<br>Water pollution; recreation and non-recreational disturbance, FLL. |
| Site GB2 East of Canvey Road | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located on west Canvey. On or near to potential FLL.<br>Policy has potential for a LSE on a site alone or in combination with this mitigation.  |



| Policy                            | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|-----------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|                                   |                                       |  |                                    |                            |                              |                                    |                     |                  | Water and air pollution; recreation and non-recreational disturbance, FLL.  |
| Site GB3 Land South of Charfleets | ✓                                     | X                                      | X                                  | X                          | X                            | ✓                                  | X                   | X                | Yes, Screen in.<br>Site located on south Canvey. On or near to potential FLL.<br>Policy has potential for a LSE on a site alone or in combination.<br>Water and pollution; non-recreational disturbance, FLL. |
| Site GB4 Land off Glebelands      | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Benfleet. Watercourse drains northwards, towards River Crouch.   |



| Policy   | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|--|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|  |                                       |  |                                    |                            |                              |                                    |                     |                  | Policy has potential for a LSE in combination. Water pollution and recreational disturbance.   |
| Site GB5 West of Benfleet (Jotmans)                    | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located west of South Benfleet.<br>On or near to potential FLL.<br>Policy has potential for a LSE on a site alone or in combination.<br>Water and air pollution; recreation and non-recreational disturbance, FLL. |
| Site GB6 Land between Felstead Road and Catherine Road | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of South Benfleet.   |



| Policy                     | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|----------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|                            |                                       |  |                                    |                            |                              |                                    |                     |                  | Recreational disturbance in combination only.  |
| Site GB8 South of Hadleigh | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located south of Hadleigh.<br>On or near to potential FLL.<br>Policy has potential for a LSE on a site alone or in combination.<br>Water and air pollution; recreation and non-recreational disturbance and FLL. |
| Site GB9 Oak Tree Farm     | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Site located north of Hadleigh.<br>Adjacent to a watercourse which feeds into Benfleet and Southend Marshes SPA.  |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?   |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
|   |                                       |  |                                    |                            |                              |                                    |                     |                  | Policy has potential for a LSE on a site alone or in combination.<br>Potential for water pollution; recreational disturbance.   |
| Site GB10 South East of Daws Heath (Brook Farm) | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Hadleigh.<br>Adjacent to a watercourse which feeds into Benfleet and Southend Marshes SPA.<br>Potential for Water pollution; recreational disturbance. |
| Site GB11 South West of Daws Heath (Solby Wood) | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Hadleigh.<br>Adjacent to a watercourse which feeds into Benfleet and Southend Marshes SPA.   |





| Policy                          | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
|                                 |                                       |  |                                    |                            |                              |                                    |                     |                  | Potential for Water pollution; recreational disturbance.   |
| Site GB12 The Chase             | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Hadleigh.<br>Potential for recreational disturbance.  |
| Site GB13 East of Rayleigh Road | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Hadleigh.<br>Adjacent to a watercourse which feeds into Crouch and Roach Estuaries SPA and Ramsar.<br>Potential for recreational disturbance and water pollution. |



| Policy  | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)?  |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|--|
| Site GB13a East of Rayleigh Road – reduced need | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Hadleigh.<br>Adjacent to a watercourse which feeds into Crouch and Roach Estuaries SPA and Ramsar.<br>Potential for recreational disturbance and water pollution. |
| Site GB14 South of Daws Heath Road              | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Hadleigh.<br>Potential for recreational disturbance.  |
| Site GB15 North of Grasmere Road                | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Thundersley.<br>Potential for recreational disturbance.   |



| Policy                               | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)? |
|--------------------------------------|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Site N1                              | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Policy has potential for LSE in combination. Recreational disturbance.                         |
| Site N2                              | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes. Screen in.<br>Policy has potential for LSE in combination. Recreational disturbance                          |
| Site N3 East of Manor Trading Estate | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north of Thundersley.<br>Potential for recreational disturbance.                  |



| Policy                                    | Benfleet and Southend Marshes SPA and | Blackwater Estuary SPA and Ramsar site | Crouch and Roach Estuaries SPA and | Dengie SPA and Ramsar site | Foulness SPA and Ramsar Site | Thames Estuary and Marshes SPA and | Essex Estuaries SAC | Outer Thames SPA | Is there potential for policy to have Likely Significant Effect (LSE) on the Habitats sites (without mitigation)? |
|---|---------------------------------------|--|------------------------------------|----------------------------|------------------------------|------------------------------------|---------------------|------------------|---|
| Site GB16 NW Thundersley (Broad Location) | ✓                                     | ✓                                      | ✓                                  | ✓                          | ✓                            | ✓                                  | ✓                   | X                | Yes, Screen in.<br>Site located north west of Thundersley.<br>Potential for recreational disturbance.             |



## Appendix 2. List of Habitats sites, Conservation Objectives and Vulnerabilities

| Site name/code  | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|--|--|---|
| <b>Benfleet and Southend Marshes</b><br>Benfleet and Southend Marshes is an estuarine area on the Essex side of the Thames Estuary. The site is comprised of an extensive series of saltmarshes, mudflats, and grassland which support a diverse flora and fauna, including internationally important numbers of wintering waterfowl. |           |  |  |   |
| <u>Benfleet and Southend Marshes SPA</u><br>UK9009171   | 2283.94   | <ul style="list-style-type: none"> <li>• Dark-bellied Brent goose; <i>Branta bernicla bernicla</i> (Non-breeding)</li> <li>• Ringed plover; <i>Charadrius hiaticula</i> (Non-breeding)</li> <li>• Grey plover; <i>Pluvialis squatarola</i> (Non-breeding)</li> <li>• Red knot; <i>Calidris canutus</i> (Non-breeding)</li> <li>• Dunlin; <i>Calidris alpina alpina</i> (Non-breeding)</li> <li>• Waterbird assemblage</li> </ul> <p>Further information can be found via Natural England's <a href="#">Supplementary Advice</a>.</p> | <p>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:</p> <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features</li> <li>• The structure and function of the habitats of the qualifying features</li> <li>• The supporting processes on which the habitats of the qualifying features rely</li> <li>• The population of each of the qualifying features, and</li> <li>• The distribution of the qualifying features within the site</li> </ul> | <p>The most up to date information can be found via Natural England's <a href="#">Supplementary Advice</a></p> <p><b>Coastal squeeze:</b><br/>Coastal defences exist along much of the coastline here. Sea level rise is also occurring. It is therefore certain that if circumstances do not change, much of the supporting habitats of the SPA birds will be lost/degraded through processes such as: coastal squeeze; sedimentation rates' inability to keep pace with sea level rise; and reduced exposure (the extent and duration) of mudflats and sandflats.</p> <p><b>Public Access/Disturbance:</b><br/>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</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     |  | <p>wildfowling. Some activities such as powerboating, may produce physical disturbance to habitats. Public access, (especially dog walking and recreational boating) was identified as a medium risk during the 2009 EMS risk review project and this activity is still occurring. Moderate levels of disturbance in less sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive. There is inadequate information to provide appropriate management.</p> <p><b>Invasive species:</b></p> <p>Non-native invasive species such as sea squirt and pacific oyster are spreading along the Kent coast and could begin to impact on the Swale. Sea squirt has been found in the Medway, and Pacific oysters are regarded as increasing in the Essex-Southend</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|----------------|-----------|---------------------|--|---|
|                |           |                     |  | <p>area. These species threaten habitats due to their ability to smother substrate and other sessile organisms. There is no good understanding of the overall distribution of these species in this site. Assessment is needed in key areas of ports and marinas, where introductions tend to first occur.</p> <p><b>Changes in species distribution:</b></p> <p>There is a decline in population size for some of the bird species on some of the SPAs (Cook et al. 2013). These are likely to be influenced by a number of factors which may vary across the four SPAs. Some of these influences are site-based as described in other parts of this Plan and some relate to wider, broad-scale changes such as wintering species distributions and effects from breeding grounds outside the UK. A greater understanding of the relative importance of site-based and wider influences is required in order to identify the potential for further actions that might halt declines, restore populations or identify scenarios where it is thought unlikely that site-based measures will reverse population declines.</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     |  | <p><b>Fisheries- commercial marine and estuarine:</b></p> <p>The extent and impacts of fisheries on private grounds, particularly in the Swale Estuary, needs to be better understood. There are particular concerns regarding the dredging of shellfish within the SPAs which are a food source for the protected birds. Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites require assessment and (where appropriate) management. This assessment will be undertaken by Kent &amp; Essex IFCA.</p> <p><b>Invasive species:</b></p> <p>Freshwater non-native invasive species such as pennywort crassula, parrots feather etc. can engulf ditches, leading to loss of habitat for diving ducks. Although there are some mechanisms in place to ensure ditch management, more baseline information is needed, particularly on those species for which ditch management is not the solution. Spartina anglica may be increasing at the expense of other saltmarsh habitats with adverse implications</p> |





| Site name/code  | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|---|--|---|
|   |           |   |  | <p>for SPA bird roost areas in Benfleet &amp; Southend Marshes.</p> <p><b>Vehicles- Illicit:</b></p> <p>The illicit use of motor vehicles (often bikes) occurs across the area. This can cause disturbance to SPA birds. This activity was identified as a medium risk during the 2009 EMS risk review project and is still occurring. Whilst various mechanisms are in place to prevent the use of vehicles they are clearly not entirely effective.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>Nitrogen deposition exceeds site- relevant critical loads.</p> |
| <u>Benfleet and Southend Marshes Ramsar site</u><br>UK11006 | 2251.31   | <p><b>Ramsar criterion 5</b></p> <p>Assemblages of international importance; species with peak counts in winter; 32867 waterfowl (5 year peak mean 1998/99-2002/2003).</p> <p><b>Ramsar criterion 6</b></p> | None available.  | None available.   |



| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|---|--|--|
|                |           | <p>Species/populations occurring at levels of international importance:</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> <li>• Branta bernicla bernicla; Dark-bellied brent goose</li> <li>• Species with peak counts in winter:</li> <li>• Charadrius hiaticula; Ringed plover</li> <li>• Pluvialis squatarola; Grey plover</li> </ul> <p>Species/populations identified subsequent to designation for possible future consideration under criterion 6.</p> <p>Species with peak counts in winter:</p> |  |  |



| Site name/code  | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|---|-----------|---|--|--|
|   |           | <ul style="list-style-type: none"> <li><i>Calidris alpina alpina</i>; Dunlin</li> </ul>                                   |  |  |
| <b>Blackwater Estuary (Mid-Essex Coast Phase 4)</b><br><p>The Blackwater Estuary is the largest estuary in Essex north of the Thames and, is one of the largest estuarine complexes in East Anglia. Its mudflats, fringed by saltmarsh on the upper shores, support internationally and nationally important numbers of overwintering waterfowl. Shingle and shell banks and offshore islands are also a feature of the tidal flats. The surrounding terrestrial habitats; the sea wall, ancient grazing marsh and its associated fleet and ditch systems, plus semi-improved grassland are also of high conservation interest. This rich mosaic of habitats supports an outstanding assemblage of nationally scarce plants and a nationally important assemblage of rare invertebrates. There are 16 British Red Data Book species and 94 notable and local species.</p> |           |   |  |  |
| <u>Blackwater Estuary SPA</u><br>(Mid-Essex Coast Phase 4)  | 4395.15   | <ul style="list-style-type: none"> <li>A046a Branta bernicla bernicla; Dark-bellied Brent goose (Non-breeding)</li> </ul> | 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: | <b>Coastal Squeeze:</b><br>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 |



| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---|--|--|
| UK9009245      |           | <ul style="list-style-type: none"> <li>• A059 Aythya ferina; Common pochard (Breeding)</li> <li>• A082 Circus cyaneus; Hen harrier (Non-breeding)</li> <li>• A137 Charadrius hiaticula; Ringed plover (Breeding)</li> <li>• A141 Pluvialis squatarola; Grey plover (Non-breeding)</li> <li>• A149 Calidris alpina alpina; Dunlin (Non-breeding)</li> <li>• A156 Limosa limosa islandica; Black-tailed godwit (Non-breeding)</li> <li>• A195 Sterna albifrons; Little tern (Breeding)</li> <li>• Waterbird assemblage</li> </ul> | <ul style="list-style-type: none"> <li>• The extent and distribution of the habitats of the qualifying features</li> <li>• The structure and function of the habitats of the qualifying features</li> <li>• The supporting processes on which the habitats of the qualifying features rely</li> <li>• The population of each of the qualifying features, and,</li> <li>• The distribution of the qualifying features within the site.</li> </ul> | <p>and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the 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.</p> <p><b>Public access /disturbance:</b></p> <p>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.</p> <p><b>Planning permission: general</b></p> <p>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</p> |



| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|--|--|--|
|                |           | Further information can be found via Natural England's <u>Supplementary Advice</u> . |  | <p>is likely to require an improved overview of the relative sensitivities of different habitats, species and locations to different types of development.</p> <p><b>Changes in species distributions:</b></p> <p>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 linked to climate change.</p> <p><b>Invasive species:</b></p> <p>An increase in Pacific oyster <i>Crassostrea gigas</i> 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.</p> <p><b>Fishing:</b></p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|----------------|-----------|---------------------|--|---|
|                |           |                     |  | <p>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.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.</p> |



| Site name/code  | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|---|-----------|--|--|--|
| <u>Blackwater Estuary</u><br><u>Ramsar site</u><br>(Mid-Essex Coast Phase 4)<br>UK11007 | 4395.15   | <p><b>Ramsar criterion 1</b></p> <p>Qualifies by virtue of the extent and diversity of saltmarsh habitat present. This site, and the four others in the Mid-Essex Coast 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.</p> <p><b>Ramsar criterion 2</b></p> <p>The invertebrate fauna is well represented and includes at least 16 British Red Data Book species. In descending order of rarity these are: Endangered: a water beetle <i>Paracymus aeneus</i>; Vulnerable: a damselfly <i>Lestes dryas</i>, the flies <i>Aedes flavescens</i>, <i>Erioptera bivittata</i>, <i>Hybomitra expollicata</i> and the spiders <i>Heliophanus auratus</i> and</p> | None available   | None available.  |



| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|--|--|--|
|                |           | <p><i>Trichopterna cito</i>; Rare: the beetles <i>Baris scolopacea</i>, <i>Philonthus punctus</i>, <i>Graptodytes bilineatus</i> and <i>Malachius vulneratus</i>, the flies <i>Campsicemus magius</i> and <i>Myopites eximia</i>, the moths <i>Idaea ochrata</i> and <i>Malacosoma castrensis</i> and the spider <i>Euophrys</i>.</p> <p><b>Ramsar criterion 3</b></p> <p>This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.</p> <p><b>Ramsar criterion 5</b></p> <p>Assemblages of international importance; species with peak counts in winter; 105061 waterfowl (5 year peak mean 1998/99-2002/2003)</p> |  |  |





| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|--|--|--|
|                |           | <p><b>Ramsar criterion 6</b></p> <p>Species/populations occurring at levels of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• <i>Pluvialis squatarola</i>; Grey plover</li> <li>• <i>Calidris alpina alpina</i>; Dunlin</li> <li>• <i>Limosa limosa islandica</i>; Black-tailed godwit</li> </ul> <p>Species/populations identified subsequent to designation for possible future consideration under criterion 6.</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• <i>Tadorna tadorna</i>; Common shelduck</li> </ul> |  |  |



| Site name/code  | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs)  | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|---|---|---|
|   |           | <ul style="list-style-type: none"> <li><i>Pluvialis apricaria</i> <i>apricaria</i>; <i>European golden plover</i></li> <li><i>Tringa totanus tetanus</i>; <i>Common redshank</i></li> </ul>                     |   |   |
| <b>Crouch &amp; Roach Estuaries (Mid-Essex Coast Phase 3)</b><br><p>The Rivers Crouch and Roach are situated in South Essex. The River Crouch occupies a shallow valley between two ridges of London Clay, whilst the River Roach is set predominantly between areas of brick earth and loams with patches of sand and gravel. The intertidal zone along the Rivers Crouch and Roach is 'squeezed' between the sea walls of both banks and the river channel. This leaves a relatively narrow strip of tidal mud unlike other estuaries in the county, which, nonetheless, is used by significant numbers of birds. One species is present in internationally important numbers, and three other species of wader and wildfowl occur in nationally important numbers. Additional interest is provided by the aquatic and terrestrial invertebrates and by an outstanding assemblage of nationally scarce plants</p> |           |   |   |   |
| <u>Crouch &amp; Roach Estuaries SPA</u><br>(Mid-Essex Coast Phase 3)<br>UK9009244   | 1735.58   | Qualifying Features potentially affected: <ul style="list-style-type: none"> <li>A046a <i>Branta bernicla</i> <i>bernicla</i>; Dark-bellied brent goose (Non-breeding)</li> <li>Waterbird assemblage</li> </ul> | 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: <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features</li> </ul> | <b>Coastal Squeeze:</b><br>Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the area of the Mid Essex Coast SPAs |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     | <ul style="list-style-type: none"> <li>• The structure and function of the habitats of the qualifying features</li> <li>• The supporting processes on which the habitats of the qualifying features rely</li> <li>• The population of each of the qualifying features, and,</li> <li>• The distribution of the qualifying features within the site.</li> </ul> | <p>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.</p> <p><b>Public access /disturbance:</b></p> <p>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.</p> <p><b>Planning permission- general:</b></p> <p>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.</p> <p><b>Changes in species distributions:</b></p> <p>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</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     |  | <p>distributions or population levels at a national or continental scale, possibly linked to climate change.</p> <p><b>Invasive species:</b></p> <p>An increase in Pacific oyster <i>Crassostrea gigas</i> 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.</p> <p><b>Fishing:</b></p> <p>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</p> |



| Site name/code  | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|---|-----------|---|--|--|
|   |           |   |  | <p>species dependent on the communities they support.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.</p> |
| <u>Crouch &amp; Roach Estuaries Ramsar site</u><br>(Mid-Essex Coast Phase 3)<br>UK11058 | 1735.58   | <b>Ramsar criterion 2</b><br>Supports an appreciable assemblage of rare, vulnerable or endangered species or subspecies of plant and animal including 13 nationally scarce plant species: slender hare's ear <i>Bupleurum tenuissimum</i> , divided sedge <i>Carex divisa</i> , sea barley <i>Hordeum marinum</i> , | None available.  | None available.  |



| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|--|--|--|
|                |           | <p>golden-samphire <i>Inula crithmoides</i>, lax flowered sea-lavender <i>Limonium humile</i>, curved hard-grass <i>Parapholis incurva</i>, Borrer's saltmarsh grass <i>Puccinellia fasciculata</i>, stiff saltmarsh grass <i>Puccinellia rupestris</i>, spiral tasselweed <i>Ruppia cirrhosa</i>, one-flowered glasswort <i>Salicornia pusilla</i>, small cord-grass <i>Spartina maritima</i>, shrubby seablite <i>Suaeda vera</i> and sea clover <i>Trifolium squamosum</i>. Several important invertebrate species are also present on the site, including scarce emerald damselfly <i>Lestes dryas</i>, the shorefly <i>Parydroptera discoomyzina</i>, the rare soldier fly <i>Stratiomys singularior</i>, the large horsefly <i>Hybomitra expollicata</i>, the beetles <i>Graptodytes bilineatus</i> and <i>Malachius vulneratus</i>, the ground lackey</p> |  |  |



| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|--|--|--|
|                |           | <p>moth <i>Malacosoma castrensis</i> and <i>Eucosoma catoprana</i>.</p> <p><u>Ramsar criterion 5</u></p> <p>Assemblages of international importance; species with peak counts in winter; 16970 waterfowl (5 year peak mean 1998/99-2002/2003)</p> <p><u>Ramsar criterion 6</u></p> <p>Species/populations occurring at levels of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• Branta bernicla bernicla; Dark-bellied brent goose</li> </ul> |  |  |

### Dengie

Dengie is a large and remote area of tidal mudflat and saltmarsh at the eastern end of the Dengie peninsula, between the 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 hosts internationally and nationally important wintering populations of wildfowl and waders, and in summer supports a range of breeding coastal birds including rarities. The formation of cockleshell spits and beaches is of geomorphological interest



| Site name/code  | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs)  | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|--|---|---|
| <u>Dengie SPA</u><br>(Mid-Essex Coast Phase 1)<br>UK9009242 | 3127.23   | <ul style="list-style-type: none"> <li><i>Branta bernicla bernicla</i>; Dark-bellied brent goose (Non-breeding)</li> <li><i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</li> <li><i>Circus cyaneus</i> Hen harrier (Non-breeding)</li> <li><i>Calidris canutus</i>; Knot (Non-breeding)</li> <li>Waterbird assemblage (Non-breeding)</li> </ul> <p>Further information can be found via Natural England's <a href="#">Supplementary Advice</a>.</p> | <p>The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:</p> <ul style="list-style-type: none"> <li>the extent and distribution of the habitats of the qualifying features</li> <li>the structure and function of the habitats of the qualifying features</li> <li>the supporting processes on which the habitats of the qualifying features rely</li> <li>the populations of qualifying features</li> <li>the distribution of qualifying features within the site</li> </ul> | <p><b>Coastal Squeeze:</b></p> <p>Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the 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.</p> <p><b>Public access /disturbance:</b></p> <p>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</p> |





| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|----------------|-----------|---------------------|--|---|
|                |           |                     |  | <p>activities, such as powerboating, may produce physical disturbance to habitats.</p> <p><b>Planning permission: general</b></p> <p>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:</p> <p>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 linked to climate change.</p> <p><b>Invasive species:</b></p> <p>An increase in Pacific oyster <i>Crassostrea gigas</i> 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</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     |  | <p>may adversely affect other species and habitats, including feeding and roosting areas of SPA bird species.</p> <p><b>Fishing:</b></p> <p>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.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>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-</p> |



| Site name/code  | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|---|-----------|---|--|--|
|   |           |   |  | shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition. |
| <u>Dengie Ramsar Site</u><br>(Mid-Essex Coast Phase 1)<br>UK9009242 | 3127.23   | <p><b>Ramsar criterion 1</b></p> <p>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.</p> <p><b>Ramsar criterion 2</b></p> <p>Dengie supports a number of rare plant and animal species. The Dengie has 11 species of nationally scarce plants: sea kale <i>Crambe maritima</i>, sea barley <i>Hordeum marinum</i>, golden samphire <i>Inula crithmoides</i>, lax flowered sea lavender <i>Limonium humile</i>, the</p> | None available.  | None available.  |



| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|---|--|--|
|                |           | <p>glassworts <i>Sarcocornia perennis</i> and <i>Salicornia pusilla</i>, small cord-grass <i>Spartina maritima</i>, shrubby sea-blite <i>Suaeda vera</i>, and the eelgrasses <i>Zostera angustifolia</i>, <i>Z. marina</i> and <i>Z. noltei</i>. The invertebrate fauna includes the following Red Data Book species: a weevil <i>Baris scolopacea</i>, a horsefly <i>Atylotus latistriatus</i> and a jumping spider <i>Euophrys browni</i>.</p> <p><b>Ramsar criterion 3</b></p> <p>This site supports a full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.</p> <p><b>Ramsar criterion 5</b></p> <p>Assemblages of international importance; species with peak counts in winter; 43828</p> |  |  |



| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|---|--|--|
|                |           | <p>waterfowl (5 year peak mean 1998/99-2002/2003)</p> <p><b>Ramsar criterion 6</b></p> <p>Species/populations occurring at levels of international importance:</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li><i>Tringa totanus tetanus</i>; Common redshank</li> </ul> <p>Species/populations identified subsequent to designation for possible future consideration under criterion 6.</p> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li><i>Branta bernicla bernicla</i>; Dark-bellied brent goose</li> <li><i>Haematopus ostralegus ostralegus</i>; Eurasian oystercatcher</li> </ul> |  |  |



| Site name/code  | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs)  | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|--|---|---|
|   |           | <ul style="list-style-type: none"> <li><i>Pluvialis squatarola</i>; Grey plover</li> <li><i>Limosa lapponica lapponica</i>; Bar-tailed godwit</li> <li><i>Calidris canutus</i>; Red knot</li> </ul>  |   |   |
| <b>Essex Estuaries</b><br>The Mid-Essex Coast comprises an extensive complex of estuaries and intertidal sand and silt flats, including several islands, shingle and shell beaches and extensive areas of saltmarsh. The proposed SPA follows the boundaries of five SSSIs: the Colne Estuary, the Blackwater Estuary, Dengie, the River Crouch Marshes and Foulness. |           |  |   |   |
| <u>Essex Estuaries SAC</u><br>UK0013690   | 46109.95  | <ul style="list-style-type: none"> <li><u>H1110</u> Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks</li> <li><u>H1130</u> Estuaries</li> <li><u>H1140</u> Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats.</li> </ul> | 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: <ul style="list-style-type: none"> <li>The extent and distribution of qualifying natural habitats</li> <li>The structure and function (including typical species) of</li> </ul> | <b>Coastal Squeeze:</b><br><br>Coastal defences along much of the Essex coastline prevent intertidal habitats from shifting landward in response to rising sea levels. As a result, these habitats are being gradually degraded and reduced in extent, with knock-on effects on the waterbirds and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing |



| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---|--|--|
|                |           | <ul style="list-style-type: none"> <li>• <u>H1310</u> Salicornia and other annuals colonizing mud and sand; Glasswort and other annuals colonising mud and sand</li> <li>• <u>H1320</u> Spartina swards (<i>Spartinion maritimae</i>); Cord-grass swards</li> <li>• <u>H1330</u> Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)</li> <li>• <u>H1420</u> Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)</li> </ul> | <p>qualifying natural habitats, and</p> <ul style="list-style-type: none"> <li>• The supporting processes on which qualifying natural habitats rely</li> </ul> | <p>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.</p> <p><b>Public access /disturbance:</b></p> <p>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.</p> <p>Planning permission: general</p> <p>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.</p> <p>Changes in species distributions:</p> <p>Declines have occurred in the numbers of some of the waterbird species using the Essex Estuaries SIP</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     |  | <p>area but these may be due to changes in their distributions or population levels at a national or continental scale, possibly linked to climate change.</p> <p><b>Invasive species:</b></p> <p>An increase in Pacific oyster <i>Crassostrea gigas</i> 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.</p> <p><b>Fishing:</b></p> <p>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</p> |





| Site name/code   | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|--|-----------|--|--|--|
|  |           |  |  | <p>species dependent on the communities they support.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a risk of harmful effects. However, on the Essex estuaries declines in the numbers of breeding terns appear to be due mainly to erosion of a man-made cockle-shingle bank (at Foulness) and to disturbance (elsewhere), rather than to over-vegetation of breeding areas caused by nitrogen deposition.</p> |
| <b>Foulness</b><br>Foulness is part of an open coast estuarine system comprising grazing marsh, saltmarsh, intertidal mudflats and sandflats which support nationally rare and nationally scarce plants, and nationally and internationally important populations of breeding, migratory and wintering waterfowl |           |  |  |  |
| <u>Foulness SPA</u><br>(Mid-Essex Coast Phase 5)<br>UK9009246  | 10968.9   | <ul style="list-style-type: none"> <li>A046a <i>Branta bernicla bernicla</i>; Dark-bellied brent goose (Non-breeding)</li> </ul> | 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: | <p><b>Coastal Squeeze:</b></p> <p>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</p>  |



| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---|--|--|
|                |           | <ul style="list-style-type: none"> <li>A082 <i>Circus cyaneus</i>; Hen harrier (Non-breeding)</li> <li>A130 <i>Haematopus ostralegus</i>; Eurasian oystercatcher (Non-breeding)</li> <li>A132 <i>Recurvirostra avosetta</i>; Pied avocet (Breeding)</li> <li>A137 <i>Charadrius hiaticula</i>; Ringed plover (Breeding)</li> <li>A141 <i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</li> <li>A143 <i>Calidris canutus</i>; Red knot (Non-breeding)</li> <li>A157 <i>Limosa lapponica</i>; Bar-tailed godwit (Non-breeding)</li> </ul> | <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features</li> <li>The structure and function of the habitats of the qualifying features</li> <li>The supporting processes on which the habitats of the qualifying features rely</li> <li>The population of each of the qualifying features, and,</li> <li>The distribution of the qualifying features within the site.</li> </ul> | <p>and other species they support. 'Managed realignment' schemes and additional intervention measures to create new areas of intertidal habitat and reduce erosion rates are being implemented but more will be needed to offset future losses. Grazing marshes in the 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.</p> <p><b>Public access /disturbance:</b></p> <p>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.</p> <p><b>Planning permission: general</b></p> <p>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</p> |



| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|----------------|-----------|--|--|---|
|                |           | <ul style="list-style-type: none"> <li>A162 <i>Tringa totanus</i>; Common redshank (Non-breeding)</li> <li>A191 <i>Sterna sandvicensis</i>; Sandwich tern (Breeding)</li> <li>A193 <i>Sterna hirundo</i>; Common tern (Breeding)</li> <li>A195 <i>Sterna albifrons</i>; Little tern (Breeding)</li> <li>Waterbird assemblage</li> </ul> <p>Further information can be found via Natural England's <a href="#"><u>Supplementary Advice</u></a>.</p> |  | <p>is likely to require an improved overview of the relative sensitivities of different habitats, species and locations to different types of development.</p> <p>Changes in species distributions:</p> <p>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 linked to climate change.</p> <p><b>Invasive species:</b></p> <p>An increase in Pacific oyster <i>Crassostrea gigas</i> 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.</p> <p><b>Fishing:</b></p> |



| Site name/code  | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|--|--|---|
|   |           |  |  | <p>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.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>Atmospheric nitrogen deposition exceeds the relevant critical loads for coastal dune habitats used by breeding terns and hence there is a</p> |
| <u>Foulness Ramsar site</u><br>(Mid Essex Coast Phase 5)<br>UK11026 | 10968.9   | <p><b>Ramsar criterion 2</b></p> <p>The site supports a number of nationally-rare and nationally-scarce plant species, and British Red Data Book invertebrates.</p> <p><b>Ramsar criterion 3</b></p> | None available   |   |



| Site name/code | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|--|--|--|
|                |           | <p>The site contains extensive saltmarsh habitat, with areas supporting full and representative sequences of saltmarsh plant communities covering the range of variation in Britain.</p> <p><b>Ramsar criterion 5</b></p> <p>Assemblages of international importance; species with peak counts in winter; 82148 waterfowl (5 year peak mean 1998/99-2002/2003)</p> <p><b>Ramsar criterion 6</b></p> <p>Species/populations occurring at levels of international importance:</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> <li>• Branta bernicla bernicla; Dark-bellied brent goose</li> </ul> |  |  |



| Site name/code  | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity   |
|---|-----------|---|--|--|
|   |           | <ul style="list-style-type: none"> <li><i>Pluvialis squatarola</i>; Grey plover</li> <li><i>Calidris canutus</i>; Red knot</li> </ul> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li><i>Limosa lapponica lapponica</i>; Bar-tailed godwit</li> </ul> |  |  |
| <b>Outer Thames Estuary</b><br><p>The Outer Thames Estuary SPA is located on the east coast of England between the counties of Norfolk (on the north side) and Kent (on the south side) and extends into the North Sea. The site comprises areas of shallow and deeper water, high tidal current streams and a range of mobile mud, sand, silt and gravely sediments extending into the marine environment, incorporating areas of sand banks often exposed at low tide. Intertidal mud and sand flats are found further towards the coast and within creeks and inlets inland down the Blyth estuary and the Crouch and Roach estuaries. The diversity of marine habitats and associated species is reflected in existing statutory protected area designations, some of which overlap or about the SPA.</p> |           |   |  |  |
| <u>Outer Thames Estuary SPA</u><br>UK9020309  | 392451.66 | <ul style="list-style-type: none"> <li>A001 <i>Gavia stellata</i>; Red-throated diver (Non-breeding)</li> <li>A193 <i>Sterna hirundo</i>; Common tern (Breeding)</li> </ul>   | 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: | <b>Fisheries- Commercial marine and estuarine:</b><br>Commercial fishing activities categorised as 'amber or green' under Defra's revised approach to commercial fisheries in European Marine Sites (EMS) require assessment and (where appropriate) management. This assessment will be undertaken by the Eastern IFCA and the Kent & Essex IFCA, and the Marine Management Organisation. |



| Site name/code           | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs)  | Key vulnerabilities / factors affecting site integrity   |
|--------------------------|-----------|--|---|--|
|                          |           | <ul style="list-style-type: none"> <li>A195 <i>Sternula albifrons</i>; Little tern (Breeding)</li> </ul> | <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features</li> <li>The structure and function of the habitats of the qualifying features</li> <li>The supporting processes on which the habitats of the qualifying features rely</li> <li>The population of each of the qualifying features, and,</li> <li>The distribution of the qualifying features within the site</li> </ul> | <p>For activities categorised as 'green', these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site. 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 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.</p> <p>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 &amp; Essex IFCA, and was not found to be problematic and so can be deemed to be low-risk.</p> |
| Thames Estuary & Marshes |           |  |   |  |



| Site name/code  | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs)   | Key vulnerabilities / factors affecting site integrity  |
|---|-----------|--|--|---|
| A complex of brackish, floodplain grazing marsh ditches, saline lagoons and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates |           |  |  |   |
| Thames<br>Estuary &<br>Marshes<br>SPA<br>UK9012021  | 4838.94   | <ul style="list-style-type: none"> <li>A082 <i>Circus cyaneus</i>; Hen harrier (Non-breeding)</li> <li>A132 <i>Recurvirostra avosetta</i>; Pied avocet (Non-breeding)</li> <li>A137 <i>Charadrius hiaticula</i>; Ringed plover (Non-breeding)</li> <li>A141 <i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</li> <li>A143 <i>Calidris canutus</i>; Red knot (Non-breeding)</li> <li>A149 <i>Calidris alpina alpina</i>; Dunlin (Non-breeding)</li> </ul> | <p>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:</p> <ul style="list-style-type: none"> <li>The extent and distribution of the habitats of the qualifying features</li> <li>The structure and function of the habitats of the qualifying features</li> <li>The supporting processes on which the habitats of the qualifying features rely</li> <li>The population of each of the qualifying features, and,</li> <li>The distribution of the qualifying features within the site.</li> </ul> | <p><b>Coastal squeeze:</b></p> <p>Coastal defences exist along much of the coastline here. Sea level rise is also occurring. It is therefore certain that if circumstances do not change, much of the supporting habitats of the SPA birds will be lost/degraded through processes such as: coastal squeeze; sedimentation rates' inability to keep pace with sea level rise; and reduced exposure (the extent and duration) of mudflats and sandflats.</p> <p><b>Public Access/Disturbance:</b></p> <p>Breeding and overwintering waterbirds are susceptible to human disturbance from a range of land- and water-based activities, including: boating and watersports; walking; bait-digging; fishing, and wildfowling. Some activities such as powerboating, may produce physical disturbance to habitats. Public access, (especially dog walking and recreational boating) was identified as a medium risk during the 2009 EMS risk review project and this activity is still occurring. Moderate levels of disturbance in less</p> |





| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|----------------|-----------|---|--|---|
|                |           | <ul style="list-style-type: none"> <li>A156 <i>Limosa limosa islandica</i>; Black-tailed godwit (Non-breeding)</li> <li>A162 <i>Tringa totanus</i>; Common redshank (Non-breeding)</li> <li>Waterbird assemblage</li> </ul> <p>Further information can be found via Natural England's <a href="#">Supplementary Advice</a>.</p> |  | <p>sensitive locations may have no significant effect on the numbers of birds using the SIP area but the types, levels and locations of potentially disturbing activities are constantly changing. Managing the changes to minimise the risk of disturbance impacts will require a better understanding of which species and habitats are most susceptible, which types of activity are most disturbing, and which locations and times of year are most sensitive. There is inadequate information to provide appropriate management.</p> <p><b>Invasive species:</b></p> <p>Non-native invasive species such as sea squirt and pacific oyster are spreading along the Kent coast and could begin to impact on the Swale. Sea squirt has been found in the Medway, and Pacific oysters are regarded as increasing in the Essex-Southend area. These species threaten habitats due to their ability to smother substrate and other sessile organisms. There is no good understanding of the overall distribution of these species in this site. Assessment is needed in key areas of ports and marinas, where introductions tend to first occur.</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|----------------|-----------|---------------------|--|--|
|                |           |                     |  | <p><b>Changes in species distribution:</b></p> <p>There is a decline in population size for some of the bird species on some of the SPAs (Cook et al. 2013). These are likely to be influenced by a number of factors which may vary across the four SPAs. Some of these influences are site-based as described in other parts of this Plan and some relate to wider, broad-scale changes such as wintering species distributions and effects from breeding grounds outside the UK. A greater understanding of the relative importance of site-based and wider influences is required in order to identify the potential for further actions that might halt declines, restore populations or identify scenarios where it is thought unlikely that site-based measures will reverse population declines.</p> <p><b>Fisheries- commercial marine and estuarine:</b></p> <p>The extent and impacts of fisheries on private grounds, particularly in the Swale Estuary, needs to be better understood. There are particular concerns regarding the dredging of shellfish within the SPAs which are a food source for the protected birds.</p> |



| Site name/code | Area (ha) | Qualifying Features | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity  |
|----------------|-----------|---------------------|--|---|
|                |           |                     |  | <p>Commercial fishing activities categorised as ‘amber or green’ under Defra’s revised approach to commercial fisheries in European Marine Sites require assessment and (where appropriate) management. This assessment will be undertaken by Kent &amp; Essex IFCA.</p> <p><b>Invasive species:</b></p> <p>Freshwater non-native invasive species such as pennywort, crassula, parrots feather etc. can engulf ditches, leading to loss of habitat for diving ducks. Although there are some mechanisms in place to ensure ditch management, more baseline information is needed, particularly on those species for which ditch management is not the solution. <i>Spartina anglica</i> may be increasing at the expense of other saltmarsh habitats with adverse implications for SPA bird roost areas in Benfleet &amp; Southend Marshes.</p> <p><b>Vehicles- Illicit:</b></p> <p>The illicit use of motor vehicles (often bikes) occurs across the area. This can cause disturbance to SPA birds. This activity was identified as a medium risk</p> |



| Site name/code   | Area (ha) | Qualifying Features  | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity   |
|--|-----------|--|--|--|
|  |           |  |  | <p>during the 2009 EMS risk review project and is still occurring. Whilst various mechanisms are in place to prevent the use of vehicles they are clearly not entirely effective.</p> <p><b>Air Pollution- risk of atmospheric nitrogen deposition:</b></p> <p>Nitrogen deposition exceeds site-relevant critical loads.</p> |
| <u>Thames Estuary &amp; Marshes Ramsar site</u><br>UK11069 | 5588.5    | <p><b>Ramsar criterion 2</b></p> <p>The site supports one endangered plant species and at least 14 nationally scarce plants of wetland habitats. The site also supports more than 20 British Red Data Book invertebrates</p> <p><b>Ramsar criterion 5</b></p> <p>Assemblages of international importance; species with peak counts in winter; 45118 waterfowl (5 year peak mean 1998/99-2002/2003)</p> | None available   | None available   |



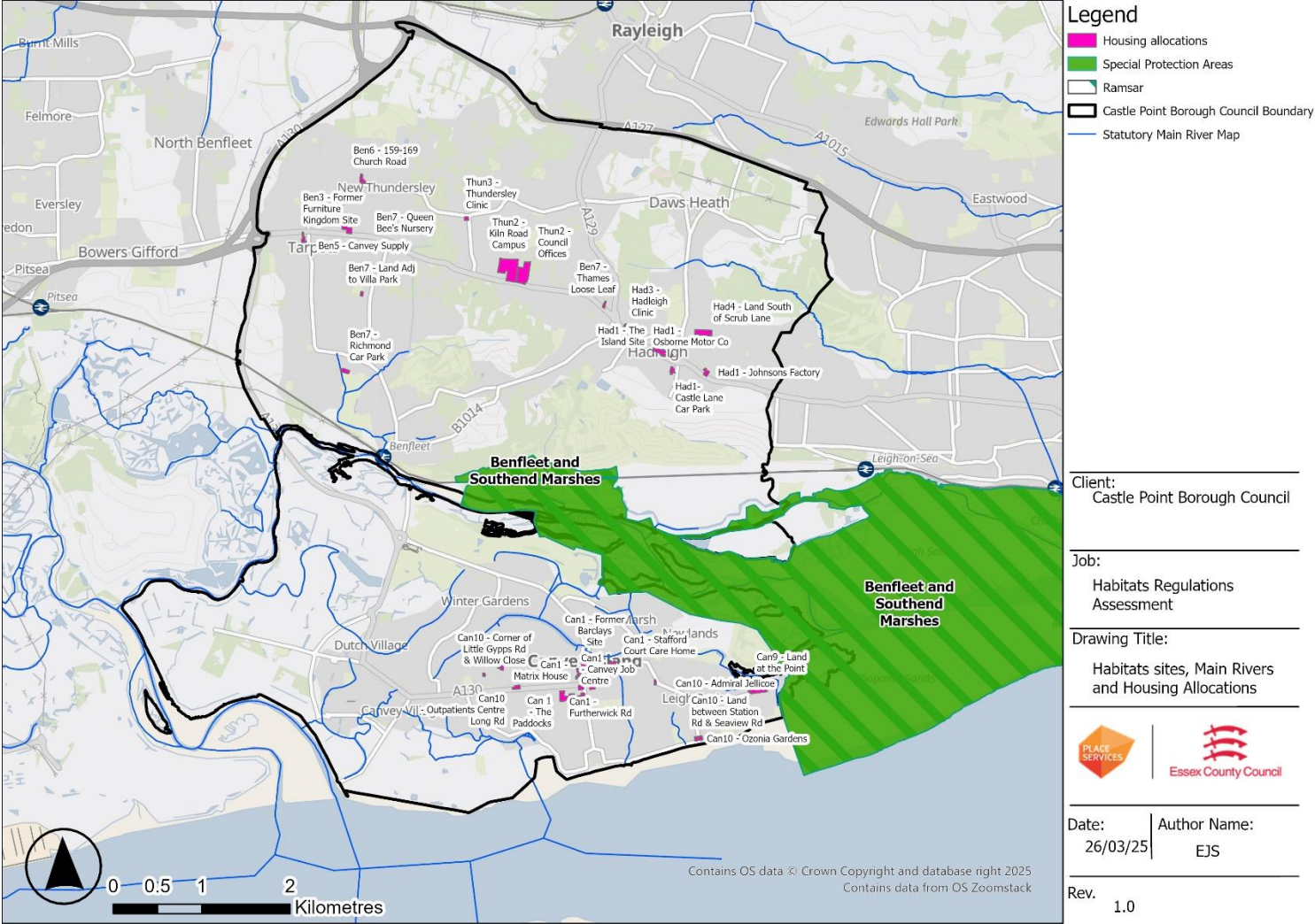
| Site name/code | Area (ha) | Qualifying Features   | Conservation objectives (only available for SACs & SPAs) | Key vulnerabilities / factors affecting site integrity |
|----------------|-----------|---|--|--|
|                |           | <p><b>Ramsar criterion 6</b></p> <p>Qualifying Species/populations (as identified at designation):</p> <p>Species with peak counts in spring/autumn:</p> <ul style="list-style-type: none"> <li>• <i>Charadrius hiaticula</i>; Ringed plover</li> <li>• <i>Limosa limosa islandica</i>; Black-tailed godwit</li> </ul> <p>Species with peak counts in winter:</p> <ul style="list-style-type: none"> <li>• <i>Pluvialis squatarola</i>; Grey plover (Non-breeding)</li> <li>• <i>Calidris canutus</i>; Red knot (Non-breeding)</li> <li>• <i>Calidris alpina alpina</i>; Dunlin (Non-breeding)</li> <li>• <i>Tringa totanus tetanus</i>; Common redshank</li> </ul> |  |  |





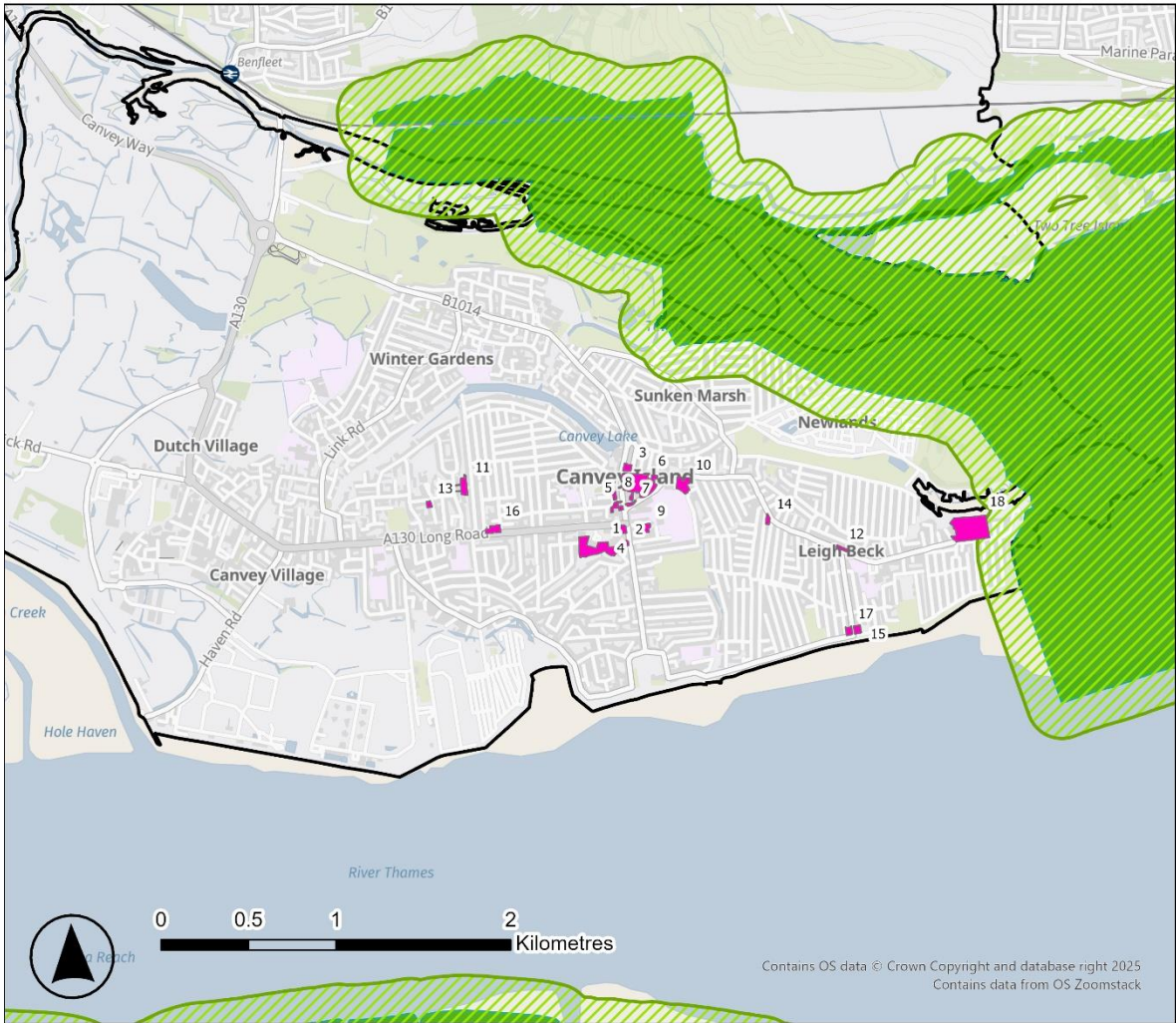


Appendix 4. Habitats sites, Main Rivers and Housing Allocations





Appendix 5. Air Quality Map showing 200 metre buffer from SPA



Legend

- Special Protection Areas
- Castle Point Borough Council Boundary
- 200 metre buffer from SPA
- Housing allocations Canvey

|    |                             |
|----|-----------------------------|
| 1  | Can 1 - The Paddocks        |
| 2  | Can1 - Canvey Job Centre    |
| 3  | Can1 - Former Barclays Site |
| 4  | Can1 - Furtherwick Rd       |
| 5  | Can1 - Grouts Canvey        |
| 6  | Can1 - Knightswick Centre   |
| 7  | Can1 - Kushi                |
| 8  | Can1 - Matrix House         |
| 9  | Can1 - Oak Road Car Park    |
| 10 | Can1 - Stafford Court Care  |
| 11 | Can10 - Rear of North       |
| 12 | Can10 - Admiral Jellicoe    |
| 13 | Can10 - Corner of Little    |
| 14 | Can10 - Essex Coachworks    |
| 15 | Can10 - Land between        |
| 16 | Can10 - Outpatients Centre  |
| 17 | Can10 - Ozonia Gardens      |
| 18 | Can9 - Land at the Point    |

Client:  
Castle Point Borough Council

Job:  
Habitats Regulations  
Assessment

Drawing Title:  
Air Quality showing 200  
metre buffer from SPA



Date:  
26/03/25

Author Name:  
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Rev.  
1.0

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Essex County Council