



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

Habitats Regulations Assessment (HRA) Report

January 2013

prepared by

enfusion



HABITATS REGULATIONS ASSESSMENT REPORT

London Southend Airport and Environs JAAP

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| <i>date:</i> | January 2013 | |
| <i>prepared for:</i> | Rochford District Council Southend-on-Sea Borough Council | |
| <i>prepared by:</i> | Alastair Peattie Toney Hallahan Jake Gorton | Enfusion Enfusion Enfusion |
| <i>quality assurance:</i> | Toney Hallahan | Enfusion |

enfusion

environmental planning and management for sustainability



Treenwood House
Rowden Lane
Bradford on Avon
BA15 2AU

t: 01225 867112

www.enfusion.co.uk

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1.0 INTRODUCTION

- 1.1 Rochford District Council and Southend on Sea Borough Council are currently preparing a Joint Area Action Plan (JAAP) for London Southend Airport and are undertaking Habitats Regulations Assessment in line with the requirements set by the Conservation of Habitats and Species Regulations (as amended) 2010. The JAAP will provide the basis for coordinating the actions of a range of partners with an interest in London Southend Airport and Environs and establish planning policies until 2021. An Issues and Options report was published for public consultation in June 2008 and the feedback received informed the development of the Preferred Options, which was published for public consultation in February 2009. The comments received on the Preferred Options have been used to inform the development of the emerging Submission Document.
- 1.2 This HRA report addresses the Screening and Appropriate Assessment stages of HRA. Although HRA is also commonly referred to as Appropriate Assessment (AA), the requirement for AA is first determined by an initial 'screening' stage undertaken as part of the HRA. This report firstly details the process and findings of the screening stage, which considers the likely significant effects of the plan on designated European sites. The AA will then consider how the likely significant effects identified through the initial screening stage may have adverse effects on the integrity of European sites.

Requirement for Habitats Regulations Assessment

- 1.3 The European Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive) protects habitats and species of European nature conservation importance. The Habitats Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as Natura 2000 sites or European Sites, and comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).
- 1.4 Articles 6 (3) and 6 (4) of the Habitats Directive require AA to be undertaken on proposed plans or projects which are not necessary for the management of the site but which are likely to have a significant effect on one or more Natura 2000 sites either individually, or in combination with other plans and projects.¹ This requirement is set out in the Conservation of Habitats and Species Regulations (as amended) 2010, which require the application of HRA to all land use plans. Government guidance also requires that Ramsar sites (which support internally important wetland habitats) and are listed under the Convention on Wetlands of International Importance (Ramsar Convention 1971) are included within HRA/AA. In this report the term

¹ Determining whether an effect is 'significant' is undertaken in relation to the designated interest features and conservation objectives of the Natura 2000 sites. If an impact on any conservation objective is assessed as being adverse then it should be treated as significant and where information is limited the precautionary principle applies.

'European sites' will be used when referring to SACs, SPAs and Ramsar sites.

- 1.5 The purpose of HRA is to assess the impacts of a land-use plan, in combination with the effects of other plans and projects, against the conservation objectives of a European Site and to ascertain whether it would adversely affect the integrity² of that site. Where significant negative effects are identified, avoidance, mitigation and where necessary alternative options should be examined to avoid any potential damaging effects. The scope of the HRA is dependent on the location, size and significance of the proposed plan or project and the sensitivities and nature of the interest features of the European sites under consideration. If it is not possible to avoid or remove the identified effects assessed as arising from the plan implementation, then [if the plan makers wish to proceed with the policies/ proposals as set] it must be demonstrated that there are Imperative Reasons of Overriding Public Interest (IROPI) to continue with the plan [(Article 6(4) of the Habitats Directive)].

Guidance for Habitats Regulations Assessment

- 1.6 Draft guidance for AA 'Planning for the Protection of European Sites: Appropriate Assessment', has been produced by the Department for Communities and Local Government (DCLG, August 2006). A partnership of consultants³ has also prepared guidance (Appropriate Assessment of Plans, August 2007) to assist planning bodies in complying with the Habitats Directive and the Royal Society for the Protection of Birds (RSPB) has also produced guidance on HRA to support the planning community.⁴ Natural England has produced draft guidance 'The Habitats Regulations Assessment of Local Development Documents (D Tyldesley and Associates, Feb 2009) which takes account of recent development in HRA practice.
- 1.7 The HRA approach applied for the JAAP is based on the best current government guidance and emergent practice. The method applied considers HRA in three main stages - outlined in **Table 1**. This report addresses Stages 1 and 2.

² Integrity is described as the sites' coherence, ecological structure and function across the whole area that enables it to sustain the habitat, complex of habitats and/or levels of populations of species for which it was classified, (ODPM, 2005).

³ Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants.

⁴ Dodd AM, Cleary BE, Dawkins JS, Byron HJ, Palframan LJ & Williams GM (2007) The Appropriate Assessment of Spatial plans: a guide to why, when and how to do it. RSPB, Sandy.

| Table 1 Habitats Regulations Assessment: Key Stages | |
|--|--|
| Stage 1 | |
| Screening | <ul style="list-style-type: none"> ▪ Identify international sites within the influence of the plan ▪ Examine conservation objectives (if available) ▪ Analyse the policy/plan and its key components ▪ Identify potential effects on European sites ▪ Examine other plans and programmes that could contribute to 'in combination' effects |
| | <ul style="list-style-type: none"> ▪ <i>If no effects likely – report that no significant effect.</i> ▪ <i>If effects are judged likely or uncertainty exists – the precautionary principle applies proceed to stage 2</i> |
| Stage 2 | |
| Appropriate Assessment | <ul style="list-style-type: none"> ▪ Collate information on sites and evaluate impact in light of conservation objectives ▪ Consider how plan 'in combination' with other plans and programmes will interact when implemented (the Appropriate Assessment) ▪ Consider how effect on integrity of site could be avoided by changes to plan and the consideration of alternatives ▪ Develop mitigation measures (including timescale and mechanisms) |
| | <ul style="list-style-type: none"> ▪ <i>Report outcomes of AA and develop monitoring strategies</i> ▪ <i>If effects remain following the consideration of alternatives and development of mitigations proceed to stage 3</i> |
| Stage 3 | |
| Assessment where no alternatives and adverse impacts remain | <ul style="list-style-type: none"> ▪ Identify 'imperative reasons of overriding public interest' (IROPI) ▪ Identify/ develop potential compensatory measures |
| | <i>Difficult test to pass, requirements are onerous and untested to date</i> |

Consultation

- 1.8 The Habitats Regulations require the plan making/ competent authority [Rochford District Council and Southend-on-Sea Borough Council] to consult the appropriate nature conservation statutory body Natural England (NE)]. NE was consulted with and agreed upon the scope and method of this assessment. A Draft HRA Report was sent to NE for comment in October 2010. NE responded⁵ in November 2010 and agreed with the findings of the Report and supported the recommendations. NE expressed concern in relation to the HRA recommendation that sustainable drainage schemes (SDS) should be required as mitigation for increased surface water run-off. There could be issues with the acceptability and technical feasibility of SDS within

⁵ Letter (by email 09/11/10) from Gordon Wyatt (NE) to Alastair Peattie (Enfusion Ltd).

parts of the JAAP area. The JAAAP Submission Draft 'expects' all new development to incorporate SDS. Taking this into account along with the advice received from NE the recommendation for the JAAP to 'require' SDS has now been removed from Section 4.

- 1.9 The Habitats Regulations leave consultation with other bodies and the public to the discretion of the plan making authority. The draft NE guidance notes that it is good practice to allow the public to comment on the HRA before it is finalised. Therefore, in addition to the statutory consultation undertaken with NE this report is being made available for wider public consultation alongside the Pre-Submission Document.

Purpose and Structure of Report

- 1.10 This report documents the process and findings of the Screening and AA stages of the HRA for the London Southend Airport and Environs JAAP. Following this introductory section the document is organised into four further sections:
- **Section 2** outlines the method used for the screening and AA.
 - **Section 3** outlines the screening process and summary findings of the screening assessment.
 - **Section 4** outlines the AA process and summary of findings of the AA.
 - **Section 5** outlines the key conclusions.

2.0 METHOD

Screening Stage

- 2.1 In accordance with guidance and current practice, conducting the screening stage of the HRA for the JAAP Preferred Options used the method outlined below. This approach combines both a **plan** and a **site** focus.
- The **plan** focus first screens out those elements of the plan unlikely to have a significant effect and then considers the impacts of the remaining elements on European sites, including the potential for 'in-combination' impacts.
 - The **site** focus considers the environmental conditions of the site and the factors required to maintain site integrity, and looks at the potential impacts the plan may have.
- 2.2 HRA experience to date has indicated that maintaining a site based approach as core to the HRA method more closely reflects the intent of the Habitats Directive. This means that subsequent avoidance and mitigation measures [developed if/ as required during the AA stage 2] seek to focus on the conditions necessary to maintain site integrity (e.g. avoiding specific types of development/ activity at or near sensitive areas).
- 2.3 Other avoidance or mitigation measures developed during the HRA process may include policy caveats at a strategic level. In some instances where decisions on avoidance and mitigation can only be made when site level detail becomes available, then the HRA process should be undertaken in relation to lower level planning documents (Tyldesley, D. 2009).
- 2.4 The key tasks employed for the HRA Screening are set out in **Table 2**.
- 2.5 As part of this screening process consideration was also given to related HRA work and Sustainability Appraisal (SA)/ Strategic Environmental Assessment (SEA) and other HRA work [where available] being undertaken in the wider area. For example, this included the HRA Screening Report of the London Southend Airport Runway Extension and Associated Development (August 2009).

| Table 2 Screening Stage: Key Tasks | |
|---|---|
| <p>Task 1</p> <p>Identification of Natura 2000 sites & characterisation</p> | <ul style="list-style-type: none"> ■ Identification of European sites both within Rochford District Council and Southend-On-Sea Borough Council boundaries and/or within the potential influence of the plan. ■ Information was obtained for each European site, based on publicly available information and consultation with Natural England where appropriate.⁶ ■ This included information relating to the sites' qualifying features; conservation objectives (where available); vulnerabilities/ sensitivities and geographical boundaries. |
| <p>Task 2</p> <p>Strategy review, policy screening and identification of likely impacts</p> | <ul style="list-style-type: none"> ■ Screening of the Core Strategy Preferred Options and the identification of likely impacts (including a review of the strategy to determine likely impacts). |
| <p>Task 3</p> <p>Consideration of other plans and programmes</p> | <ul style="list-style-type: none"> ■ Consideration, where appropriate, of other plans and programmes that may have in-combination effects with the Core Strategy Preferred Options. |
| <p>Task 4</p> <p>Screening Assessment</p> | <ul style="list-style-type: none"> ■ Summary of screening outcomes and recommendations. |

Appropriate Assessment Stage

- 2.6 Assessing the impacts of plans, policies and proposals against the European site conservation objectives is required by Regulation 102 of the Conservation of Habitats and Species Regulations 2010. This 'appropriate assessment' is the core part of the HRA process and involves the key tasks set in **Table 3**.

⁶ www.jncc.gov.uk, www.natural-england.org.uk.

| Table 3 Appropriate Assessment Stage: Key Tasks | |
|---|--|
| Task 1 Scoping and Additional Information Gathering | <ul style="list-style-type: none"> ■ Gathering additional information on European sites ■ Gathering additional data on background environmental conditions ■ Further analysis of plans/ projects that have the potential to generate 'in-combination' effects |
| Task 2 Assessing the Impacts (in-combination) Appropriate Assessment | <ul style="list-style-type: none"> ■ Examination of the policies and proposals identified during the screening phase and their likely significant effects on European sites ■ Consideration of whether effects are direct/ indirect/ cumulative ■ Consideration of whether other plans and programmes are likely to generate effects that have the potential to act cumulatively with those arising from the plan |
| Task 3 Developing Mitigation Measures (including initial avoidance) | <ul style="list-style-type: none"> ■ If effects identified – either arising from the plan alone and/or 'in-combination' with other plans – consider initial opportunities to avoid (e.g. delete/ remove or amend policy from plan) ■ Develop mitigation measures – must be deliverable by the plan and have clear delivery/ monitoring responsibilities |
| Task 4 Findings & Recommendations | <ul style="list-style-type: none"> ■ Conclude the assessment, explain key findings and analysis informing conclusions. |
| Task 5 Consultation | <ul style="list-style-type: none"> ■ Undertaken further consultation with NE (assumes that consultation has also been an iterative process throughout the HRA/AA). |

2.7 The full range of plans and projects [and their potential impacts] considered by the assessment in relation to possible 'in-combination' effects, are detailed in **Appendix 2**. This 'in-combination' analysis is integral to the assessment process as detailed in **Appendix 3** and **Section 4**.

3.0 SCREENING STAGE

Identification of European sites & characterisation

- 3.1 There are no European sites within the JAAP boundary; however, plans and programmes have spatial implications that can extend beyond the intended plan area boundaries. In particular; it is also recognised that distance in itself is not a definitive guide to the likelihood or severity of an impact as factors such as the prevailing wind direction, river flow direction, and groundwater flow direction will all have a bearing on the relative distance at which an impact can occur. This means that a plan directing development some distance away from a European site could still have indirect effects on the site and, therefore, needs to be considered as part of the screening process.
- 3.2 Taking into account the potential for transboundary impacts the screening has identified fifteen European sites⁷ potentially within the influence of the plan (**Table 4**). Hydrological connectivity, air quality and the potential for disturbance as a result of increased air traffic was a major consideration during the identification of European sites, given the number of water dependent sites and designated bird species in South Essex. NE was consulted with and agrees on the European sites scoped into this assessment.

| Table 4 | |
|--|--------------------|
| European Sites within the influence of the plan | Designation |
| Benfleet and Southend Marshes | SPA & Ramsar |
| Blackwater Estuary | SPA & Ramsar |
| Crouch and Roach Estuaries | SPA & Ramsar |
| Dengie | SPA & Ramsar |
| Essex Estuaries | SAC |
| Foulness | SPA & Ramsar |
| Medway Estuary and Marshes | SPA & Ramsar |
| Thames Estuary and Marshes | SPA & Ramsar |

Plan Review, Policy Screening and Identification of Likely Impacts

London Southend Airport and Environs JAAP: Summary Review

- 3.3 The JAAP is being prepared by Rochford District Council and Southend-on-Sea Borough Council in response to the challenges and opportunities offered by London Southend Airport together with an airport related employment cluster. The JAAP will provide the basis for coordinating the actions of a range of partners with an interest in the London Southend Airport and environs and establish planning policies until 2021. It will:

⁷ Sites designated both as a SPA and Ramsar are considered as two separate European sites.

- Managing the level of growth and change in the area by establishing an approach to development and associated planning principles;
- Safeguard areas and places sensitive to change;
- Direct investment and provide key planning policies for regeneration in the area; and
- Be effective and deliverable.

3.4 The Vision and Objectives for the JAAP are set out below.

Box 1: JAAP Vision and Objective

Vision:

'An area that realises its potential as a driver for the sub-regional economy, providing significant employment opportunities and ensuring a good quality of life for its residents and workers. To achieve this, the area's assets and opportunities for employment need to be supported and developed'

Objectives:

- Creation of sustainable, high quality and high value employment and other land uses within the study area;
- Maximising the economic benefits of a thriving airport and related activity;
- Ensuring good connectivity to the development area by all modes of transport, with appropriate improvements to sustainable transport and the highway network;
- Ensuring a high quality public realm and environment for residents and workers;
- Maximum return on public investment through attracting inward investment; and
- Efficient use and upgrading of existing employment land resources.

London Southend Airport and Environs JAAP: Screening of Preferred Option Policies

3.5 Screening of the Preferred Policy Approaches involved identifying the policies that may lead to significant effects on European sites both alone and in-combination. The approach taken was in accordance with NE draft guidance for HRA of Local Development Documents (Tyldesley, D. 2009). In order to complete the policy screening each policy was categorised as to its likely effects on each European site identified in **Appendix 1**. There are four categories of potential effects, which are as follows:

- **Category A:** elements of the plan/options that would have no negative effect on a European site at all;
- **Category B:** elements of the plan/options that could have an effect, but the likelihood is there would be no significant negative effect on

a European site either alone or in combination with other elements of the same plan, or other plans or projects;

- **Category C:** elements of the plan/options that could or would be likely to have a significant effect alone and will require the plan to be subject to an appropriate assessment before the plan may be adopted;
- **Category D:** elements of the plan/options that would be likely to have a significant effect in combination with other elements of the same plan, or other plans or projects and will require the plan to be subject to an appropriate assessment before the plan may be adopted.

3.6 Categories A, C and D are subdivided so that the specific reason why a policy has been allocated to a particular category is clear. The detail of the screening assessment which considers each of the JAAP policies against the categories is provided in **Appendix 3** and policies which were considered to potentially lead to likely significant effects are listed in **Table 5**.

| Table 5 | | |
|--|--|----------------------------|
| Core Strategy Preferred Option policies screened in to the assessment process | | Assessment Category |
| Policy E2 | Aviation Way Industrial Estate | D2 |
| Policy E3 | Saxon Business Park | C2 & D2 |
| Policy E5 | Development of Area 1A - Saxon Business Park | D2 |
| Policy E6 | Development of Area 1B - Saxon Business Park | D2 |
| Policy E8 | Nestuda Way Business Park | D2 |
| Policy LS1 | General Policy | D2 |
| Policy TF1 | Expansion of New Terminal | D2 |
| Policy MRO1 | Northern MRO | D2 |
| Policy MRO2 | Northern MRO Extension | D2 |
| Policy MRO3 | Southern MRO Zone | D2 |
| Policy ADZ1 | Existing Terminal Area | D2 |

Identification of Likely Impacts

3.7 The Strategy Review, consultation with Natural England and Screening of Preferred Policy Approaches identified a number of impacts that have the potential to result in likely significant effects on European sites. These impacts can be broadly characterised against the following 'pathways of impact':

- **Water Resource and Water Quality** - resulting from increased demand for water consumption and discharge requirements arising from new/ expanded commercial developments and the potential for increased point source pollution, changes to surface water/ run-off which may have implications for water dependant sites.

- **Atmospheric Pollution** - arising from a growth in airborne and surface transport as well as general development (emissions from construction/ building stock).
- **Disturbance** - as a result of noise pollution from increased levels of airborne transport.

3.8 The potential for the impacts identified to have a significant effect on the European sites highlighted is summarised in the main screening assessment findings later in this Section.

Consideration of other plans and programmes

3.9 It is a requirement of Article 6(3) of the Habitats Directive that HRA examines the potential for plans and programmes to have a significant effect either individually or 'in-combination' with other plans and programmes (PPs). Undertaking an assessment of other PPs requires a pragmatic approach (given the extensive range of PPs underway in the region). For this screening, consideration of other PPs has focused on those likely to lead to significant infrastructure/ development changes with related impacts. It has also focused on plans which provide information that help to determine environmental condition of and pressures on European sites. These included:

- Draft East of England Plan East of England Regional Assembly 2004
- Essex Transport Strategy: the Local Transport Plan for Essex (June 2011)
- Essex County Council Minerals Development Document: Preferred Approach Paper 2010
- Essex County Council Waste Development Document: Preferred Approach Paper 2011
- South Essex Outline Water Cycle Study Technical Report (September 2011)
- Anglian River Basin Management Plan, September 2009
- Essex and Suffolk Water Updated Draft Water Resources Management Plan January 2009
- The Combined Essex Catchment Abstraction Management Study (CAMS) Feb 2007
- The Combined Essex Catchment Abstraction Management Study (CAMS) update March 2008
- Exceeding Expectations Tourism Growth Strategy for Essex March 2007
- Basildon District Council Core Strategy Preferred Options 2012
- Castle Point Borough Council Core Strategy, 2009⁸
- Chelmsford Borough Council Core Strategy, 2008
- Maldon District Council Core Strategy, 2009
- Rochford Core Strategy, Adopted December 2011

⁸ On 27 September 2011, Castle Point Borough Council formally resolved to withdraw the Core Strategy. Issues and Options consultation on a new Local Plan is being scheduled in August 2012.

- Southend-on-Sea Borough Council Core Strategy, Adopted September 2009
- Southend-on-Sea Local Transport Plan 2006-2011
- London Southend Airport Runway Extension and Associated Development, October 2009

3.10 The potential effects of these plans are reviewed in detail at **Appendix 2** and the findings of this review considered in the light of impacts arising from the screening process are used to inform the screening assessment [**Appendix 3**]. The range of in-combination impacts considered was focused on the key issues outlined below:

- Pressures on **water abstraction** and waste water treatment as a result of development and growth around the plan area and potential impacts on **water quality** (particularly in relation to water dependant European sites).
- Potential for significant increased traffic generation and associated **air pollution issues** as a result of the growth of the airport and surrounding commercial development.

3.11 The PPs considered at this stage are reviewed in **Appendix 2** and this analysis was used to inform the screening assessment (**Appendix 3**).

Screening Assessment of the London Southend Airport and Environs JAAP

3.12 In line with the screening requirements of the Habitats Regulations, an assessment was undertaken to determine the potential likely significant effects of the JAAP Preferred Options on the integrity of European sites that lie within the potential influence of the plan. This assessment was based on:

- The information gathered on European sites (**Appendix 1**)
- The evaluation of impacts arising from the plan
- The review of other relevant plans and programmes (**Appendix 2**)

Screening Assessment Summary

3.13 The screening assessment detailing the analysis in accordance with NE guidance is set out in the screening matrix (**Appendix 3**) and the results of the assessment are summarised in **Table 5** below.

3.14 The screening assessment identified that the JAAP has the potential for likely significant effects alone through Policy E3. The policy proposes the development of approximately 100,000 sqm of floorspace and 4,950 jobs, which has the potential to increase water abstraction, increase pressure on sewerage capacity and increase surface water run-off. It was considered that further detailed assessment was required to assess the potential for this policy to have adverse effects on the integrity of European sites through these issues. As advised by

NE, the identified coastal European sites are not considered sensitive to atmospheric pollution⁹; therefore it is assessed that the JAAP alone will not have likely significant effects on European sites through increased atmospheric pollution.

- 3.15 The screening assessment identified that a number of the JAAP Policies are unlikely to have a significant effect alone, given the type, location and quantum of development proposed, as well as European site sensitivities. However, it was assessed that a number of these policies may act in-combination with proposed development in surrounding areas to have likely significant effects on European sites through increased water abstraction, increased pressure on sewerage capacity and increased surface water run-off. It was considered that further detailed assessment was required to assess the potential for development proposed in the JAAP and surrounding areas to have adverse in-combination effects on the integrity of European sites through increased water abstraction, increased pressure on sewerage capacity and increased surface water run-off. As advised by NE, the identified coastal European sites are not considered sensitive to atmospheric pollution¹⁰; therefore it is assessed that the JAAP in-combination with other plans and programmes will not have likely significant effects on European sites through increased atmospheric pollution.
- 3.16 Given the sensitivity of the European sites and the pressures currently arising as a result of development proposed in the JAAP and the surrounding areas, as well as uncertainties with regard to hydrological connectivity (Benfleet and Southend Marshes SPA/Ramsar), it was considered that further AA is required to assess the potential for adverse effects on site integrity both alone and in-combination on the European sites identified as requiring AA in **Table 5**.

| Table 6 HRA Screening Table Summary | | | |
|--|--------------------|---|--|
| European Sites | Designation | AA required alone? ✘ No ✓ Yes ? Uncertain | AA required in combination? ✘ No ✓ Yes ? Uncertain |
| Benfleet and Southend Marshes | SPA & Ramsar | ? | ? |
| Blackwater Estuary | SPA & Ramsar | ✘ | ✘ |
| Crouch and Roach Estuaries | SPA & Ramsar | ✓ | ✓ |
| Dengie | SPA & Ramsar | ✘ | ✘ |
| Essex Estuaries | SAC | ✓ | ✓ |

⁹ Natural England 2009: Response to JAAP Preferred Options Consultation

¹⁰ Ibid.

| | | | |
|----------------------------|--------------|---|---|
| | | | |
| Foulness | SPA & Ramsar | ✘ | ✘ |
| Medway Estuary and Marshes | SPA & Ramsar | ✘ | ✘ |
| Thames Estuary and Marshes | SPA & Ramsar | ✘ | ✘ |

4.0 APPROPRIATE ASSESSMENT STAGE

Appropriate Assessment Analysis & Findings

- 4.1 The policy screening work and the review of plans and programmes 'in-combination' identified two main areas of impact arising that may have the potential for significant effects on the integrity of five European sites¹¹: water resources and water quality. These issues are investigated further below.

Water Resources

What are the issues arising from the plan?

- 4.2 The screening noted the potential for Policy E3 to have significant effects on the integrity of the identified European sites through the proposed development of 100,000 sq metres of employment floorspace. This has the potential to increase water demand and therefore abstraction levels. The screening also assessed that there is the potential for a number of JAAP policies (E2, E3, E5, E6, E8, LS1, TF1, MRO1, MRO2, MRO3 and ADZ1) to have significant in-combination effects with other plans and programmes on the identified European sites through increased abstraction levels.

How might the five European sites be affected?

- 4.3 The five European sites identified are designated for a range of important wetland habitats (e.g. estuaries, mudflats and salt marshes) that support a large number of protected bird species (e.g. Dark-bellied Brent Goose and Hen Harrier). The Regulation 33 advice issued by English Nature¹² for the Essex Estuaries European marine site¹³ identifies that the protected habitats and species¹⁴ are potentially vulnerable to changes in salinity as a result of increased abstraction. According to the Regulation 33 advice, "salinity is the key determinant of plant and animal distribution in estuaries". The birds protected under the Beenfleet and Southend Marshes SPA/Ramsar designation rely upon similar habitats (tidal flats and saltmarshes) to those protected under the Essex Estuaries SAC, therefore, the vulnerabilities of these habitats are considered to be similar.

Which other plans/ projects could lead to in-combination effects?

- 4.4 The following plans and programmes have the potential to act in-combination with the JAAP:

¹¹ Beenfleet and Southend Marshes SPA/Ramsar, Crouch and Roach Estuaries SPA/Ramsar and Essex Estuaries SAC. From herein in these will be referred to as 'European sites'.

¹² English Nature (2000) Essex Estuaries European Marine Site: English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994

¹³ The Essex Estuaries European marine site encompasses the Essex Estuaries SAC, Blackwater Estuary SPA, Colne Estuary SPA, Crouch and Roach Estuaries SPA, Dengie SPA and Foulness SPA.

¹⁴ Pioneer Saltmarsh, Cordgrass Swards, Atlantic Salt Meadows, Mediterranean Saltmarsh Scrub, Estuaries, Intertidal Mudflats and Sandflats and Internationally Important Bird Populations.

- Draft East of England Plan East of England Regional Assembly 2004
- Essex County Council Minerals Development Document: Preferred Approach Paper 2010
- Essex County Council Waste Development Document: Preferred Approach Paper 2011
- South Essex Outline Water Cycle Study Technical Report (September 2011)
- Anglian River Basin Management Plan, September 2009
- Essex and Suffolk Water Updated Draft Water Resources Management Plan January 2009
- The Combined Essex Catchment Abstraction Management Study (CAMS) Feb 2007
- The Combined Essex Catchment Abstraction Management Study (CAMS) update March 2008
- Basildon District Council Core Strategy Preferred Options 2012
- Castle Point Borough Council Core Strategy, 2009¹⁵
- Chelmsford Borough Council Core Strategy, 2008
- Maldon District Council Core Strategy, 2009
- Rochford Core Strategy, Adopted December 2011
- Southend-on-Sea Borough Council Core Strategy, Adopted September 2009

Water Resources - What is the current situation?

- 4.5 Essex and Suffolk Water's supply area has geographically separate areas known as the Essex supply area and Suffolk Supply area. The JAAP boundary lies within the Essex Resource Zone (ERZ), which includes the towns of Southend-on-Sea, Chelmsford, Witham, Brentwood, Billericay, Grays, Dagenham and Romford. The water sources available within the ERZ include the rivers Chelmer, Blackwater, Stour and Roman which support pumped storage reservoirs at Hanningfield and Abberton, and treatment works at Langford, Langham, Hanningfield and Layer¹⁶. Approximately 3% of the water sourced in the ERZ is derived from groundwater in the south and south west. There are two main sources of water transferred from outside this supply area from the Chigwell raw water bulk supply from Thames Water Utilities and the Ely Ouse to Essex Transfer Scheme (EOETS). The supply network in Essex is highly integrated and therefore has a large degree of flexibility for moving water around the zone to where it is required.
- 4.6 Essex & Suffolk Water carried out an HRA of their Draft Water Resource Management Plan (WRMP), which identified that as part of the Final Planning Solution only the Abberton Scheme has the potential for likely

¹⁵ On 27 September 2011, Castle Point Borough Council formally resolved to withdraw the Core Strategy. Issues and Options consultation on a new Local Plan is being scheduled in August 2012.

¹⁶ Essex and Suffolk Water (Jan 2009) Updated Draft Water Resources Management Plan.

significant effects on European sites. After further studies it was concluded that the scheme would not have adverse effects on the integrity of any European sites. In response to consultation on the WRMP HRA, NE commented that the Abberton scheme is likely to have a significant positive effect on the conservation status of the bird species designated under the Abberton Reservoir SPA/ Ramsar.

- 4.7 The South Essex Outline Water Cycle Study Technical Report (Sept 2011) carried out a screening assessment for European sites and concluded that there will be no need to consider impacts on Designated Sites as a result of increased abstraction any further, since the long-term water supply strategy will be met by the Abberton Reservoir scheme. However, this scheme has now been consented and has been subject to its own Appropriate Assessment as part of that process.

Is there potential for adverse effects on the integrity of European sites?

- 4.8 The Regulation 33 advice for the Essex Estuaries European marine site includes a section that relates to 'advice on operations'. English Nature used a three step process to develop this advice. This process involved an assessment of the sensitivity and exposure of the interest features, which was then used to determine their vulnerability. Through this process the Essex Estuaries European marine site interest features were assessed as having a low to moderate sensitivity and a low exposure to changes in salinity. Based on this English Nature determined in 2000 that the interest features had a low level of vulnerability in relation to changes in salinity. The document indicates that there is the potential for exposure levels to change in the future, however, the level of sensitivity is relatively stable and will only change as a result of an improvement in scientific knowledge.
- 4.9 Given current and predicted future demands on water resources in the region, there is a possibility that the exposure of interest features to changes in salinity could increase over time. However, based on the matrix of relative vulnerability contained within Appendix I of the Regulation 33 advice, the exposure levels would have to reach high before the interest features would be considered to be highly vulnerable to changes in salinity. It is clear from the information provided that the interest features have a higher sensitivity and exposure to physical loss, damage and toxic contamination rather than changes in salinity as a result of increased abstraction.
- 4.10 Further to this, it is considered that existing mitigation mechanisms will help to minimise effects on the integrity of the European sites. Under the Habitats Regulations the Environment Agency (EA) has a duty to assess the effects of existing abstraction licences and any new applications (Review of Consents - RoC) to make sure they are not impacting on internationally important nature conservation sites. Water efficiency is also tested by the EA before a new license is granted. If the assessment of a new application shows that it could have an impact on a SAC/SPA the EA will have to follow strict rules in

setting a time limit for that license. This could involve the issue of a license with conditions attached, such as a 'Hands-Off Flow' condition. This specifies that if the flow or level in the river drops below that which is required to protect the environment, the abstraction must stop.

- 4.11 The JAAP currently expects all new development to deliver high levels of environmental efficiency and to meet the requirements set out in the Core Strategies of both local authorities, which contain a number of policies that will help to minimise the contribution of proposed development to the adverse in-combination effects on water resources. Given the low vulnerability of the interest features and the mitigation provided by other plans and programmes that help to minimise the effects of development on water resources, it is assessed that the JAAP will not have adverse effects on European site integrity either alone or in-combination through increased levels of abstraction.

Recommendations for avoidance and mitigation

- 4.12 It is recommended that the Submission JAAP should include the requirement for all new development to meet the BREEAM rating of 'Excellent'. It should also encourage the use of rainwater harvesting and water recycling systems throughout the JAAP area. This re-iterates the recommendations made by the EA in response to the JAAP Preferred Options consultation. This will help to avoid any long-term changes to salinity and therefore exposure of the interest features by minimising the effects of development on water resources.

Water Quality

What are the issues arising from the plan?

- 4.13 The screening noted the potential for Policy E3 to have significant effects on the integrity of the identified European sites through the proposed development of 100,000 sq metres of employment floorspace. This has the potential to reduce water quality through increased pressure on sewerage capacity and surface water run-off from an increase in hard surfaces. The screening also assessed that there is the potential for a number of JAAP policies (E2, E3, E5, E6, E8, MRO1, MRO2, MRO3 and ADZ1) to have significant in-combination effects on the identified European sites through reduced water quality.

How might the five European sites be affected?

- 4.14 The five European sites identified are designated for a range of important wetland habitats (e.g. estuaries, mudflats and salt marshes) that support a large number of protected bird species (e.g. Dark-bellied Brent Goose and Hen Harrier). Water quality is identified by the Regulation 33 advice for the Essex Estuaries European marine site as being necessary to maintain the plant and animal communities, which support the important bird populations by providing feeding, nesting

and roosting areas. Industrial effluent discharges can contain contaminants which build up in the food chain and can have toxic effects on organisms. They can also contain non-toxic contaminants, such as oxygen-depleting substances and nutrients. Eutrophication can lead to the excessive growth of planktonic or benthic algae, which is caused by increased nutrient inputs originating from sewage or agricultural run-off.

Which other plans/ projects could lead to in-combination effects?

4.15 The following plans and programmes have the potential to act in-combination with the JAAP:

- Draft East of England Plan East of England Regional Assembly 2004
- Essex Transport Strategy: the Local Transport Plan for Essex (June 2011)
- Essex County Council Minerals Development Document: Preferred Approach Paper 2010
- Essex County Council Waste Development Document: Preferred Approach Paper 2011
- South Essex Outline Water Cycle Study Technical Report (September 2011)
- Anglian River Basin Management Plan, September 2009
- Essex and Suffolk Water Updated Draft Water Resources Management Plan January 2009
- The Combined Essex Catchment Abstraction Management Study (CAMS) Feb 2007
- The Combined Essex Catchment Abstraction Management Study (CAMS) update March 2008
- Exceeding Expectations Tourism Growth Strategy for Essex March 2007
- Basildon District Council Core Strategy Preferred Options 2012
- Castle Point Borough Council Core Strategy, 2009¹⁷
- Chelmsford Borough Council Core Strategy, 2008
- Maldon District Council Core Strategy, 2009
- Rochford Core Strategy, Adopted December 2011
- Southend-on-Sea Borough Council Core Strategy, Adopted September 2009
- Southend-on-Sea Local Transport Plan 2006-2011

Water Quality - What is the current situation?

4.16 The main watercourses within the vicinity of the JAAP boundary are the Eastwood, Rayleigh and Prittle Brooks. The Eastwood Brook passes within the JAAP boundary and converges with the Rayleigh Brook to form the Hawkwell Brook to the north. The Prittle Brook runs parallel to

¹⁷ On 27 September 2011, Castle Point Borough Council formally resolved to withdraw the Core Strategy. Issues and Options consultation on a new Local Plan is being scheduled in August 2012.

the eastern boundary of the JAAP just over 1km away. Both the Hawkwell Brook and Prittle Brook eventually flow into the River Roach approximately 0.5km to the north-east of the JAAP boundary.

- 4.17 The Rayleigh, Eastwood, Hawkwell and Prittel Brooks are currently assessed by the EA as having moderate biological quality, which is not predicted to change over the next five years¹⁸. The current chemical quality of Prittle Brook has not yet been assessed, but the other watercourses have been assessed as passing at present. According to the Environmental Statement that accompanied the Southend Airport runway extension and associated development planning application¹⁹, the water quality of Eastwood Brook and Prittle Brook is 'quite poor'. The estuary and coastal waters that form the Essex Estuaries European marine site are currently assessed by the EA as passing chemical quality as well as having moderate biological quality. The estuarine waters of Benfleet and Southend Marshes SPA/Ramsar are also assessed as having moderate biological quality; however, the same waters fail EA chemical water quality tests.

Is there potential for adverse effects on the integrity of European sites?

a) Wastewater

- 4.18 The South Essex Outline Water Cycle Study Technical Report (Sept 2011) carried out a screening assessment for European sites and concluded that given the small amount of new development likely to be delivered in each catchment and the relatively low sensitivity of the European sites in question to nutrient enrichment, it may well be that a significant effect (either alone or in combination) would be unlikely even if discharges were to require an increase in existing consents. However, the impact of any discharges that require a change to existing consents should nonetheless be considered further through a Detailed WCS.
- 4.19 Given the findings of the South Essex Outline Water Cycle Study Technical Report (Sept 2011) it is considered that the increased discharges as a result of development proposed in the JAAP will not have adverse effects on the integrity of European sites.

b) Surface water run-off

- 4.20 As well as wastewater discharges, there is the potential for increased surface water run-off and therefore increased urban pollution from proposed development as a result of an increased amount of impermeable surfaces. This was identified by both NE and the EA as a potential issue in their response to the JAAP Preferred Options consultation. The potential impacts of additional run-off from the growth of the airport have already been addressed through

¹⁸ Environment Agency (Accessed on 23/02/2010) What's in your back yard?

¹⁹ London Southend Airport Company Limited (2009) (Application Reference: 09/01960/FULM) Southend Airport Runway Extension and Associated Development.

attenuation storage areas proposed within the Southend Airport runway extension and associated development planning application²⁰. Subject to mitigatory measures, such as balancing ponds, being implemented as necessary, NE considers that no significant effects are likely on the interest features of any of the European sites in the vicinity of the proposed runway extension and associated development, either alone or in-combination with other plans or projects²¹.

- 4.21 Policy E3 (Saxon Business Park) has the potential to increase surface water run-off in the JAAP area given the size (100,000 sq metres of floorspace), land type (arable land and grassland) and location (proximity to Rayleigh and Eastwood Brooks) of the proposed development. There is the potential for increased surface water run-off to reduce the water quality of Rayleigh Brook and Eastwood Brook, whose waters eventually flow into the Essex Estuaries European marine site. The JAAP Preferred Options DPD 'expects' all new development to incorporate sustainable drainage systems (SDS). In response to the JAAP Preferred Options consultation the EA commented that incorporating SDS in all new developments, 'would not only ensure reduction in surface water run-off but would also improve the water quality'²². It is therefore assessed, that if SDS are 'required' for all new developments, policy E3 alone will not have adverse effects on the integrity of European sites through increased surface water run-off.
- 4.22 In addition to the potential adverse effects outlined above for the plan alone, there is also the potential for adverse in-combination effects on the integrity of European sites through increased surface water run-off. As identified in the paragraph above, the JAAP expects all new developments to incorporate SDS, which will not only ensure a reduction in surface water run-off but will also help to improve water quality. Further to this, the JAAP is required to meet the requirements set out in the Core Strategies of both local authorities, which contain a number of policies that will help to minimise the contribution of proposed development within the JAAP plan area to the adverse in-combination effects on water quality resulting from other plans²³. The implementation of the Water Framework Directive (WFD) through River Basin Management Plans and effects arising from the Catchment Abstraction Management Strategy (CAMS) process are also likely to have positive effects on the integrity of the European sites by regulating and improving water flow and quality within the water courses. It is therefore assessed that the JAAP will not have adverse in-

²⁰ London Southend Airport Company Limited (2009) (Application Reference: 09/01960/FULM) Southend Airport Runway Extension and Associated Development.

²¹ Ref: Email 01/09/09 Gordon Wyatt (NE) to Gregory Chamberlain (Jacobs) re: Southend Airport HRA.

²² Environment Agency Ltd 2009: Response to JAAP Preferred Options Consultation

²³ For example, Policy KP2 (Development Principles) of the adopted Southend-on-Sea Core Strategy ensures that proposed developments include appropriate measures in design, layout, operation and materials to achieve a reduction in the use of resources, including the use of renewable and recycled resources. All development proposals are expected to demonstrate how they will maximise the use of renewable and recycled water.

combination effects on European site integrity through increased surface water run-off.

Recommendations for avoidance and mitigation

- 4.23 It is recommended that the monitoring of Chemical and Biological quality of the Rayleigh, Eastwood and Prittle Brooks is incorporated into the annual monitoring reports for both Councils. Incorporating these indicators will allow the Councils to monitor any changes in the water quality of the brooks during the life of the plan. If the Annual Monitoring Report (AMR) identifies that water quality has deteriorated, then the Council should consult with EA and NE to determine the most appropriate course of action.
- 4.24 The findings and recommendations of this HRA have been subject to consultation with NE.

5.0 CONCLUSIONS, FUTURE WORK

- 5.1 This report outlines the methods used and the findings arising from the Habitats Regulations Assessment for London Southend Airport and Environs Joint Area Action Plan DPD Submission Draft. The first stage of the HRA process (screening) considered the likely significant effects on fifteen European sites within the influence the plan. The screening found that the plan, both alone and in-combination, had the potential for likely significant effects at five of these European sites through increased water abstraction, increased wastewater discharge and increased surface water run-off. The five European sites were carried forward to the next stage of the HRA process, Appropriate Assessment, to determine if the plan has the potential for adverse effects on site integrity through the impacts identified above.
- 5.2 After gathering additional information the Appropriate Assessment first considered the potential for the plan to have adverse effects on site integrity through increased abstraction of water resources. It was determined that due to the low vulnerability of the interest features (to changes in salinity as a result of increased abstraction) and mitigation provided by other plans and programmes that would help to minimise the effects of proposed development on water resources, the JAAP will not have adverse effects on European site integrity either alone or in-combination through increased levels of abstraction.
- 5.3 The AA then considered the potential for the plan to have adverse effects on European site integrity through increased wastewater discharge. Given the findings of The South Essex Outline Water Cycle Study Technical Report (Sept 2011), it was assessed that the increased discharges (consented) as a result of development proposed in the JAAP will not have adverse effects on the integrity of European sites.
- 5.4 As well as wastewater discharges, the AA considered the potential for increased surface water run-off from proposed development due to an increase in hard surfaces. The JAAP Preferred Options DPD 'expects' all new development to incorporate sustainable drainage systems (SDS). In response to the JAAP Preferred Options consultation the EA commented that incorporating SDS in all new developments, 'would not only ensure reduction in surface water run-off but would also improve the water quality'²⁴. Further to this, the JAAP is required to meet the requirements set out in the Core Strategies of both Local Authorities, which contain a number of policies that will help to minimise the contribution of proposed development within the JAAP plan area to the adverse in-combination effects on water quality resulting from other plans. As a result the AA concluded that the JAAP will not have adverse effects on European site integrity either alone or in-combination through increased surface water run-off.

²⁴ Environment Agency Ltd 2009: Response to JAAP Preferred Options Consultation

- 5.5 Based on the assessment outlined above, the AA made a number of recommendations, which included the following:
- The Submission JAAP DPD should set a challenging policy to restrict additional water use within the plan area.
 - The monitoring of Chemical and Biological quality of the Rayleigh, Eastwood and Prittle Brooks is incorporated into the Annual Monitoring Reports for both Councils. Incorporating these indicators will allow the Councils to monitor any changes in the water quality of the brooks during the life of the plan. If the Annual Monitoring Report (AMR) identifies that water quality has deteriorated, then the Council should consult with EA and NE to determine the most appropriate course of action.
- 5.6 The findings of this plan level HRA do not obviate the need to undertake HRA for lower level, project scale/ implementation plans where there is potential for significant effect on one or more European Sites. The findings of this HRA should be used to inform any future assessment work.

JAAP Progression

- 5.7 The Council's have considered the conclusions arising from the HRA process and the advice provided by NE. To ensure that the requirements of the Habitats Regulations are met, all the proposed recommendations detailed in this report have now been incorporated into the JAAP Pre-Submission. At this stage, the AA therefore concludes that the London Southend Airport and Environs JAAP will not result in adverse effects on the integrity of European sites.

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