



DARTFORD BOROUGH COUNCIL TOWN CENTRE AREA ACTION PLAN (incorporating the Northern Gateway): Preferred Options



HABITATS REGULATIONS ASSESSMENT



SCREENING REPORT



AUGUST 2007



enfusion



**DARTFORD BOROUGH COUNCIL
TOWN CENTRE AREA ACTION PLAN
(incorporating the Northern Gateway): Preferred Options**

**HABITATS REGULATIONS ASSESSMENT
SCREENING REPORT**

<i>date:</i>	August 2007	
<i>prepared for:</i>	Dartford Borough Council	
<i>prepared by:</i>	Toney Hallahan (Enfusion) Ruth Thomas (Enfusion)	
<i>quality assurance:</i>	Barbara Carroll (Enfusion)	

enfusion

environmental planning and management for sustainability

Treenwood House
Rowden Lane
Bradford on Avon
BA15 2AU
t: 01225 867112
www.enfusion.co.uk

Habitats Regulations Assessment: Screening Report

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1.0 INTRODUCTION

- 1.1 Enfusion was appointed by Dartford Borough Council to undertake Habitats Regulations Assessment (HRA) of the Dartford Town Centre Area Action Plan (AAP) (incorporating the Northern Gateway): Preferred Options.
- 1.2 Habitats Regulations Assessment is also commonly referred to as Appropriate Assessment (AA) although the requirement for AA is first determined by an initial 'screening' stage undertaken as part of the HRA. This report details the findings of this first, screening stage. Its aim is to provide information, which in consultation with Natural England and wider stakeholders will allow the competent authorities to come to a decision as to whether a full Appropriate Assessment is necessary for the Dartford Town Centre AAP.

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 In 2007, this requirement will be transposed into UK law in Part IVA of the Habitats Regulations (The Conservation (Natural Habitats, & c.)(Amendment) (England and Wales) Regulations 2007). These regulations will require the application of AA to all land use plans.
- 1.5 The purpose of AA 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, alternative options should be examined to avoid any potential damaging effects. The scope of the AA is dependent on the location, size and significance of the proposed plan or project.

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. Where information is limited the precautionary principle applies and significant effects should be assumed until evidence exists to the contrary.

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).

Guidance for Habitats Regulations Assessment [Appropriate Assessment (AA)]

- 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). The final DCLG guidance is expected in 2007. A partnership of consultants³ has also prepared guidance (Appropriate Assessment of Plans, August 2007) to assist planning bodies in complying with the Habitats Directive.
- 1.7 Based on the available guidance and emergent practice, HRA is approached in three main stages. This report addresses the first screening stage of the HRA.

Habitats Regulations Assessment: Key Stages	
Stage 1	
Screening	<ul style="list-style-type: none"> ▪ Identify international sites in and around the plan/strategy area ▪ Examine conservation objectives ▪ Analyse the policy/plan and its key components ▪ Identify potential effects on Natura 2000 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
	<ul style="list-style-type: none"> ▪ <i>Difficult test to pass, requirements are onerous and untested to date</i>

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

Habitats Regulations Assessment of the Dartford and Grvesham Local Development Framework Core Strategies

- 1.8 A Habitats Regulations Assessment (HRA) screening of the Dartford and Gravesham Local Development Framework (LDF) Core Strategies was undertaken in May 2007. The screening process identified the potential for significant impacts from the Dartford and Gravesham Core Strategies at two European sites [Thames Estuary & Marshes and Medway Estuary & Marshes]. This relates primarily to the, as yet un-quantified, effects of large scale, cumulative development pressures from housing, industry and transport in the region, particularly from those areas that lie closer to the designated sites (Gravesham development).
- 1.9 The screening process also noted that it is problematical to consider any development in the Thames Gateway region in isolation, when many of the impacts arising are likely to result from cumulative activities occurring in a region experiencing unprecedented development pressures. This is particularly the case with regard to transboundary issues such as air quality and recreational pressure. Further appropriate assessment will address these issues for the Dartford and Gravesham Core Strategies.

Consultation

- 1.10 The Habitats Regulations require the plan making/competent authority to consult the appropriate nature conservation statutory body [Natural England (NE)].
- 1.11 Consultation via telephone and email with NE has been ongoing for the HRA of the Dartford and Gravesham Core Strategies. Further discussion has been held in relation to the method and approach for the HRA of the Dartford Town Centre AAP. It was agreed with NE to pay particular attention to recreational and air quality issues and NE has provisionally agreed with the conclusions of this report. NE will be consulted further prior to the issue of the final report.

2.0 METHOD

2.1 In accordance with the official guidance and current practice, conducting the screening stage of the Dartford Town Centre AAP has followed four key stages.

HRA Screening Stage: Key Tasks	
Task 1 Identification of Natura 2000 sites & characterisation	<ul style="list-style-type: none"> ▪ Identification of European sites either within the Dartford Borough and/or in surrounding authorities that may be affected by the AAP. ▪ Information was obtained for each European site, based on publicly available information and consultation with Natural England where appropriate. ▪ This included information relating to the sites' qualifying features; conservation objectives; vulnerabilities/ sensitivities and geographical boundaries.
Task 2 Strategy review and identification of likely impacts	<ul style="list-style-type: none"> ▪ A review of the aims and objectives of the Dartford AAP, including spatial implications where indicated and identification of likely impacts.
Task 3 Consideration of other plans and programmes	<ul style="list-style-type: none"> ▪ Consideration, where appropriate of other plans and programmes that may have in-combination effects with the Dartford AAP.
Task 4 Screening Assessment	<ul style="list-style-type: none"> ▪ Summary of screening outcomes and recommendations.

2.2 As part of this screening process, consideration was also given to the Appropriate Assessment of the South East Plan, undertaken by Scott Wilson and Levett-Therivel (October 2006).

3.0 SCREENING

Task 1: Identification of Natura 2000 sites & characterisation

- 3.1 The Dartford Borough features riverside marshes which are characteristic of the highly valued habitats of the Greater Thames Estuary. South of the principal urban areas, undulating countryside rises towards the North Downs. This area, populated by villages and dormitory settlements is surrounded by agricultural land. The Dartford Borough, therefore, includes a contrast of landscapes, from estuarine to semi-upland countryside, in addition to the townscapes. Within this varied environment diverse sites have been designated for their national and local importance.
- 3.2 There are no European sites within Dartford Borough, however, plans and programmes have spatial implications that frequently extend beyond the intended plan area boundaries. This means that a plan located some distance away from a European site could still have effects on the site and, therefore, needs to be considered as part of the screening process. There are four sites that are located within the potential influence of the AAP: Thames Estuary & Marshes, Medway Estuary and Marshes SPA, Benfleet and Southend Marshes SPA and the North Downs Woodland SAC. The sites represent significant diversity with assemblages of internationally important bird species and habitats ranging from Beech forests to mud flats. The sites are listed below and detailed at **Appendix 1**.

European Sites within an [approx] 30 mile buffer zone ⁴	Designation	European Site – Approx Distance from Dartford	European Site – Area
Thames Estuary & Marshes	Special Protection Area (SPA) Ramsar	16km	4838.94ha
Medway Estuary & Marshes	SPA Ramsar	23km	4684.36ha
Benfleet & Southend Marshes	SPA Ramsar	28km	2251.31ha
North Downs Woodland	Special Area of Conservation (SAC)	18km	287.58ha

⁴ Guidance from English Nature (now Natural England) indicates a 10km buffer zone, but recommends a precautionary approach. A wider buffer zone reflects the water borne issues at the sites being screened.

Task 2: Strategy review and identification of likely impacts

- 3.3 This section provides a review of the aims of the AAP and the likely impacts arising from the preferred options outlined in the document. Area Action Plans are required as part of the Local Development Framework in areas where there is a requirement for significant change or where conservation issues exist.
- 3.4 To date, Dartford has undertaken consultation with the community, business and interests and other key stakeholders to identify issues and options for the town centre. The Preferred Options document is the next step towards adopting the AAP and sets out possible options to achieve the long term vision for the town centre.
- 3.5 The AAP provides a framework for delivering the successful revitalisation of Dartford Town Centre. A number of key issues and needs have been identified for Dartford. They include, the need to improve: the quality of retail offer; the coherence of the town centre; the quality of the town centre environment and buildings; leisure and entertainment facilities; public transport and walkability; the Northern Gateway. The AAP covers the town centre and a number of sites to the north of the railway collectively referred to as the Northern Gateway.
- 3.6 The AAP generates preferred options for a number of key areas that will be integral to delivering the Vision for the Town Centre 2026. They are:
- **Strengthening the Shopping Offer** [includes options for shopping floorspace; size of units; primary shopping frontage; food stores and retail warehousing]
 - **Uses to complement shopping** [housing; leisure; hotels]
 - **Making more of Dartford's Assets** [historic environment; markets; Central Park; River Darent; the Orchard Theatre]
 - **An Environment to Enjoy** [walking; high quality public realm; design of new development; greening the town centre]
 - **Getting to the Town Centre** [traffic movement; air quality; public transport; public car parking; cycling]
 - **Opportunity Sites** [Station Quarter; Orchards Quarter; South East Quarter]
- 3.7 The implementation of the AAP will support the delivery of the significant planned growth within the Dartford area. The Draft South East Plan has set a target of 15,700 new dwellings to be delivered in Dartford up to 2026 of which approximately 1,500-2,000 are to be built within the AAP area.
- 3.8 There are a number of potential environmental impacts arising from the AAP as a result of:
- **Construction activities:** increased development activity and associated impacts (dust/ noise/ light emissions including greenhouse gas emissions from energy use, waste generation, water usage) at construction and operational phases;
 - **Urbanisation generally:** greater development, including residential development and associated needs for travel and recreation;
 - **Increased traffic:** potentially more commercial and residential/ recreational travel with associated air pollution impacts;

- **Increased water use:** during development and in support of a growing population.
- 3.9 Of significance in relation to the European sites, is the potential for impacts on air quality [through emissions from development and travel] and the likelihood of increased recreational pressures (including water-based recreation) arising from the planned growth in population, both within the town centre and the surrounding areas.

Task 3: Consideration of other plans and programmes

- 3.10 It is a requirement of Article 6(3) of the Habitats Directive that HRA examines the potential for plans and projects to have a significant effect either individually or 'in combination' with other plans or projects.
- 3.11 Other key plans considered at this stage (outlined at Appendix 2) have included:
- Dartford Local Development Framework Core Strategy
 - The Draft South East Plan: A Clear Vision for the South East 2006
 - Thames Estuary 2100 Project
 - Greening the Gateway; a Greenspace Strategy for Thames Gateway
 - Waterfronts and Waterway in Kent Thameside - A Strategic Agenda 2005
 - Thames Gateway Strategic Regional Framework Interim Report 2006
 - Kent Local Transport Plan 2006-2011
 - Strategic Planning Guidance for the River Thames – RPG3B/9B 1997
 - South East England Regional Assembly Strategy for Energy Efficiency and Renewable Energy 2004
 - The London Plan
 - The East of England Plan
 - Medway Plan
 - Kent and Medway Structure Plan
 - Thames Gateway Interim Plan 2006

Task 4: Screening Assessment of Dartford Town Centre AAP: Preferred Options

- 3.12 In line with the screening requirement of the Habitats Regulations an assessment has been undertaken to identify potential significant impacts of **Dartford Borough Council's Town Centre AAP: Preferred Options** on the integrity of four Natura 2000 sites which lie within a buffer zone (approx 30 miles) of the Plan area. This full analysis is set out in the Screening Tables at **Appendix 3** and is summarised in **Table 3** below. This process was based on:
- The review of the Town Centre AAP and its likely impacts;
 - The information gathered on the Natura 2000 sites – **Appendix 1**; and;
 - The review of other relevant plans – **Appendix 2**.

Assessment Summary

- 3.13 The Town Centre APP sets out the preferred policies for development within the central urban area of Dartford. The policies are focused on the development of commerce and housing within the urban envelope. This development will take place primarily on brownfield land and policies include requirements to minimise the impact of this regeneration work on the natural environment.

3.14 In summary, the key potential impacts on European sites from the AAP are:

- **Increased recreational pressures** – resulting from the planned for and predicted, population growth
- **Air quality issues** – potential localised impacts associated with housing development, construction activities, increased transportation and travel generally

3.15 The AAP policies set a clear strategic framework for addressing the potential impacts highlighted. In particular, the policies recognise the potential cumulative impacts of population growth on recreational areas, and include measures directed at improving the quality of, and accessibility to, town centre based recreation facilities. For example, the AAP sets out aims for improved leisure facilities in Central Park and the integration of walking routes with the River Darent_Valley Path providing easier access to Dartford Marshes, Brooklands Lakes and Ancient Woodlands Country Park.

3.16 The AAP is also cognisant of the potential impacts on air quality arising from both development activity and the increased travel that will result from population growth. The requirement for air quality management measures which will act in mitigation, is integral to the AAP.

Table 3 HRA Screening Table Summary		
European Sites within an [approx] 30 mile buffer zone	Designation	AA Required? ✓ Yes ✗ No ? Uncertain
Thames Estuary & Marshes	SPA, Ramsar	✗
North Downs Woodland	SAC	✗
Medway Estuary & Marshes	SPA, Ramsar	✗
Benfleet & Southend Marshes	SPA, Ramsar	✗

4.0 CONCLUSIONS

4.1 The screening process has shown that there are no significant impacts arising from the **Dartford Town Centre AAP** in relation to the four Natura 2000 sites examined and that no further Appropriate Assessment work is required.

4.2 Extant guidance advises that plans do not require Appropriate Assessment where they clearly would not have a significant effect on European sites. Good examples of plans not requiring AA are those that apply to areas which do not have European sites within or near their boundaries and/or where development is concentrated entirely in the urban environment– as at Dartford. In this case the AAP is directing development in an existing urban environment, using brownfield land and generating new public space, walking routes and Green Infrastructure. Additionally, the development at Dartford only accounts for 1/3 of the total development proposed across North Kent and is distant from the designated sites.

4.3 The AAP clearly sets out a range of mitigation measures [for example, the generation of new Green Infrastructure, providing open areas and new/ improved recreation facilities, promoting sustainable transport and travel, requiring sustainable design and construction methods, collocation of jobs and homes] which when implemented should all provide for a more

sustainable urban environment with a reduced ecological footprint that maintains and improves the environmental quality of the wider area.

Appendix 1: Natura 2000 Site Characteristics

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
SACs and SPAs within buffer zone of Dartford.				
<p>THAMES ESTUARY & MARSHES</p> <p>Unitary Authorities: Kent, Essex</p> <p>Area Ramsar (ha): 5588.59</p> <p>Area SPA (ha): 4838.94</p>	<p>Ramsar Site – UK11069</p> <p>SPA – UK9012021</p>	<p>Tidal rivers, estuaries, mud flats, sand flats, lagoons – 57.3%</p> <p>Salt marshes, salt pastures, salt steppes – 1.5%</p> <p>Shingle, sea cliffs, islets – 0.9%</p> <p>Inland water bodies (standing water, running water) – 5.6%</p> <p>Bogs, marshes, water fringed vegetation, fens – 3.7%</p> <p>Dry grassland, steppes – 1.9%</p> <p>Humid grassland,</p>	<p>There is evidence of coastal squeeze (<i>rising sea levels causing intertidal habitats to migrate landwards, however in built up areas landward retreat is not possible due to presence of a sea wall or flood defences. In addition development usually takes place immediately behind such defences so the wall cannot be moved landwards to accommodate the managed retreat of vulnerable sites</i>) and erosion of intertidal habitats within the site. Erosion of the salt marsh a contributory factor in coastal squeeze at this site.</p> <p>Terrestrial part of site is dependant on grazing and water management, which may be affected by the agricultural market and development pressures.</p> <p>Development pressures may lead to indirect hydrological effects and direct land take from the site. However development cannot lead to a net loss of</p>	<p>Ramsar Site Criterion</p> <p>Criterion 2: Site supports one endangered plant species (<i>Lactuca saligna</i>) and at least 14 nationally scarce plants of wetland habitats. Site also supports 20 British Red Data Book invertebrates.</p> <p>Criterion 5: Assemblages of international importance – species with peak counts in winter, 75019 waterfowl.</p> <p>Criterion 6: Species/populations occurring at levels of international importance.</p> <ul style="list-style-type: none"> - Ringer plover (<i>Charadrius hiaticula</i>) 2.6% of the GB population - Black tailed Godwit (<i>Limosa limosa islandica</i>) 2.6% of the GB population - Grey plover (<i>Pluvialis squatarola</i>) 1.7% of the GB population

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
		<p>mesophile grassland – 29.1%</p>	<p>grazing marsh habitat as it is an important habitat for SPA species.</p> <p>Studies indicate the waters in the Thames are hyper-nutriented for nitrogen and phosphorus and further studies are necessary to identify if this is having an adverse effect on the integrity of the site.</p> <p>The site is at risk from incidental pollution due to probable increase in shipping as a result of investment and port development.</p> <p>There is a further possible threat from an increase in the level of effluent due to development.</p> <p>The grazing marsh habitat is an important habitat for SPA species.</p>	<ul style="list-style-type: none"> - Red knot (<i>Calidris canutus</i>) 1.4% of the population - Common redshank (<i>Tringa tetanus</i>) 2.2% of the GB population - Avocet (<i>Recurvirostra avosetta</i>) 28.3% of the GB population - Hen Harrier (<i>Circus cyaneus</i>) 1.0% of the GB population <p>SPA</p> <p>Over winter the area regularly supports (Article 4.1):</p> <ul style="list-style-type: none"> - <i>Circus cyaneus</i> 1% of the population in GB - <i>Recurvirostra avosetta</i> 28.3% of the population in GB <p>Over winter the area regularly supports (Article 4.2):</p> <ul style="list-style-type: none"> - <i>Calidris alpina alpina</i> 2.1% of the population - <i>Calidris canutus</i> 1.4% of the population - <i>Limosa limosa islandica</i> 2.4% of the population - <i>Pluvialis squatarola</i> 1.7% of the population - <i>Tringa tetanus</i> 2.2% of the population

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
				<p>On passage the area regularly supports:</p> <ul style="list-style-type: none"> - <i>Charadrius hiaticula</i> 2.6% of the population <p>Article 4.2 Qualification: An internationally important assemblage of birds: Over winter the area regularly supports 75019 waterfowl including <i>Recurvirostra avosetta</i> , <i>Pluvialis squatarola</i> , <i>Calidris canutus</i> , <i>Calidris alpina alpina</i> , <i>Limosa limosa islandica</i></p>

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
<p>NORTH DOWNS WOODLAND</p> <p>Unitary Authorities: Kent, Medway</p> <p>Area (ha): 287.58</p>	SAC – UK0030225	<p>Dry grassland, steppes – 14%</p> <p>Broad-leaved deciduous woodland – 63%</p> <p>Coniferous woodland – 23%</p>	<p>The chalk grassland requires continuous grazing, which is not achieved over parts of this site. This may be affected by the agricultural market and development pressures.</p> <p>There are increased recreational pressures due to development.</p> <p>It is also not possible to rule out adverse effects to the site due to urbanisation from ongoing development.</p>	<p>SAC</p> <p>Annex 1 Habitats primary reason for selection:</p> <ul style="list-style-type: none"> - <i>Asperulo-Fagetum</i> beech forests - <i>Taxus baccata</i> woods of the British Isles <p>Annex II habitats qualifying feature for selection:</p> <ul style="list-style-type: none"> - Semi-dry natural grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
<p>MEDWAY ESTUARY & MARSHES</p> <p>Unitary Authorities: Kent</p> <p>Area Ramsar (ha): 4969.74</p> <p>Area SPA (ha): 4684.36</p>	<p>Ramsar site – 11040</p> <p>SPA - 9012031</p>	<p>Tidal rivers, estuaries, mud flats, sand flats, lagoons – 67%</p> <p>Salt marshes, salt pastures, salt steppes – 15%</p> <p>Inland water bodies (standing water, running water) – 1%</p> <p>Bogs, marshes, water fringed vegetation, fens – 1%</p> <p>Dry grassland, steppes – 1%</p> <p>Humid grassland, mesophile grassland – 15%</p>	<p>Continued maintenance dredging for port may be contributing to the removal of sediment from the estuary and other adverse effects.</p> <p>Possible disturbance to site from water borne recreation and this pressure may increase due to development.</p> <p>Studies indicate the waters in the Thames are hyper-nitrified for nitrogen and phosphorus and further studies are necessary to identify if this is having an adverse effect on the integrity of the site.</p> <p>Review necessary to address the effects of abstraction on the availability of water for drainage for arable cultivation and other land uses.</p> <p>Terrestrial part of site is dependant on grazing and water management, which may be affected by the agricultural market and development pressures.</p> <p>Development, transport and industrial, pressures may lead to indirect hydrological effects and direct land take from the site.</p> <p>The site is at risk from incidental pollution</p>	<p>Ramsar Site Criterion</p> <p>Criterion 2: Site supports number of rare plant and animal species</p> <ul style="list-style-type: none"> - <i>Hordeum marinum</i> sea barley - <i>Parapholis incurve</i> curved hard-grass - <i>Polypogon monspeliensis</i> annual beard-grass - <i>Puccinellia fasciculata</i> Borrer's saltmarsh-grass - <i>Bupleurum tenuissimum</i> slender hare`s-ear - <i>Trifolium squamosum</i> sea clover - <i>Chenopodium chenopodioides</i> saltmarsh goose-foot - <i>Inula crithmoides</i> golden samphire - <i>Sarcocornia perennis</i> perennial glasswort - <i>Salicornia pusilla</i> one-flowered glasswort - <p>Total of at least twelve British Red Data Book species of wetland invertebrates have been recorded on the site.</p> <p>Criterion 5: Assemblages of international importance – species with peak count in winter 47637 waterfowl</p>

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
			<p>due to probable increase in shipping as a result of investment and port development.</p> <p>There is a further possible threat from an increase in the level of effluent due to development.</p> <p>The grazing marsh habitat is an important habitat for SPA species.</p>	<p>Criterion 6: Species/populations occurring at levels of international importance</p> <ul style="list-style-type: none"> - Grey plover (<i>Pluvialis squatarola</i>) 1.2% of the population - Common redshank (<i>Tringa totanus totanus</i>) 1.4% of the population - Dark-bellied brent goose (<i>Branta bernicla bernicla</i>) 1.1% of the population - Common shelduck (<i>Tadorna tadorna</i>) 3.3% of the GB population - Northern pintail (<i>Anas acuta</i>) 1.8% of the population - Ringed plover (<i>Charadrius hiaticula</i>) 1.6% of the GB population - Red knot (<i>Calidris canutus islandica</i>) 1% of the population - Dunlin (<i>Calidris alpina alpina</i>) 1.4% of the GB population <p>SPA</p> <p>During the breeding season the area regularly supports (Article 4.1):</p> <ul style="list-style-type: none"> - <i>Recurvirostra avosetta</i> 6.2% of the GB breeding population - <i>Sterna albifrons</i> 1.2% of the GB breeding population - <i>Sterna hirundo</i> 0.6% of the GB breeding population <p>Over winter the area regularly supports:</p>

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
				<ul style="list-style-type: none"> - <i>Cygnus columbianus bewickii</i> 0.2% of the GB population - <i>Recurvirostra avosetta</i> 24.7% of the GB population <p>Over winter the area regularly supports (Article 4.1):</p> <ul style="list-style-type: none"> - <i>Anas acuta</i> 1.2% of the population - <i>Anas clypeata</i> 0.8% of the population in GB - <i>Anas crecca</i> 1.3% of the population in GB - <i>Anas Penelope</i> 1.6% of the population in GB - <i>Arenaria interpres</i> 0.9% of the population in GB - <i>Branta bernicla bernicla</i> 1.1% of the population - <i>Calidris alpine alpine</i> 1.9% of the population - <i>Calidric canutus</i> 0.2% of the population - <i>Charadrius hiaticula</i> 1.6% of the population - <i>Haematopus ostralegus</i> 1% of the population in GB - <i>Limosa limosa islandica</i> 12.9% of the population in GB - <i>Numenius arquata</i> 1.7% of the population in GB - <i>Pluvialis squatarola</i> 2% of the population

Appendix 1

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
				<ul style="list-style-type: none"> - <i>Tadorna tadorna</i> 1.5% of the population - <i>Tringa nebularia</i> 2.6% of the population in GB - <i>Tringa tetanus</i> 2.1% of the population <p>Article 4.2 Qualification: An internationally important assemblage of birds: During the breeding season the area regularly supports <i>Alcedo atthis</i>, <i>Anas platyrhynchos</i>, <i>Asio flammeus</i>, <i>Aythya ferina</i>, <i>Circus cyaneus</i>, <i>Falco columbarius</i>, <i>Gavia stellata</i>, <i>Phalacrocorax carbo</i>, <i>Vanellus vanellus</i>.</p> <p>Over winter the area regularly supports 65496 waterfowl including: <i>Gavia stellata</i>, <i>Podiceps cristatus</i>, <i>Phalacrocorax carbo</i>, <i>Cygnus columbianus bewickii</i>, <i>Branta bernicla bernicla</i>, <i>Tadorna tadorna</i>, <i>Anas penelope</i>, <i>Anas crecca</i>, <i>Anas platyrhynchos</i>, <i>Anas acuta</i>, <i>Anas clypeata</i>, <i>Aythya ferina</i>, <i>Haematopus ostralegus</i>, <i>Recurvirostra avosetta</i>, <i>Charadrius hiaticula</i>, <i>Pluvialis squatarola</i>, <i>Vanellus vanellus</i>, <i>Calidris canutus</i>, <i>Calidris alpina alpina</i>, <i>Limosa limosa islandica</i>, <i>Numenius arquata</i>, <i>Tringa totanus</i>, <i>Tringa nebularia</i>, <i>Arenaria interpres</i>.</p>

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
<p>BENFLEET & SOUTHEND MARSHES</p> <p>Unitary Authorities: Essex</p> <p>Area Ramsar (ha): 2251.31</p> <p>Area SPA (ha): 2251.31</p>	<p>Ramsar Site - UK11006</p> <p>SPA – UK9009171</p>	<p>Marine beds – 5.3%</p> <p>Tidal rivers, estuaries, mud flats, sand flats, lagoons – 85.1%</p> <p>Salt marshes– 6.7%</p> <p>Coastal brackish/ saline lagoons – 0.05%</p> <p>Rivers/ streams/creeks: permanent – 0.05%</p> <p>Freshwater marshes/ pools: permanent – 2.8%</p>	<p>Vulnerability linked to changes in the physical environment especially coastal squeeze.</p> <p>Indirect recreational pressures to facilitate visitor attractions are leading to piecemeal development and disturbance is caused to the site through construction. Area vulnerable to increased recreational pressures.</p> <p>Wildfowling and cockle fishing are threats but are well regulated by agreement.</p> <p>Studies indicate the waters in the Thames are hyper-nitrified for nitrogen and phosphorus and further studies are necessary to identify if this is having an adverse effect on the integrity of the site. Construction of new road bridge resulted in the loss of some designated habitat and caused disturbance to the site during construction.</p> <p>Continued maintenance dredging for port may be contributing to the removal of sediment from the estuary and other adverse effects.</p> <p>Rising sea levels and sinking land levels are compounded by coastal flood</p>	<p>Ramsar Site Criterion</p> <p>Criterion5: Assemblages of international importance – species with peak counts in winter 32867 waterfowl</p> <p>Criterion6: Species populations occurring at levels of international importance.</p> <ul style="list-style-type: none"> - Dark-bellied brent goose 2.1% of the population - Grey plover 3.2% of the GB population - Red knot 1.4% of the population - <p>SPA</p> <p>Over winter the area regularly supports (Article 4.2):</p> <ul style="list-style-type: none"> - <i>Branta bernicla bernicla</i> 1.3% of the population - <i>Calidris alpina alpina</i> 2.1% of the population in GB - <i>Calidris canutus</i> 2.6% of the population - <i>Charadrius hiaticula</i> 1.3% of the population in GB - <i>Pluvialis squatarola</i> 2.3% of the population

Site Name	Status & Site Code	Site Characteristics	Site Vulnerabilities	Primary Reason for Designation (Habitats and/or Species) Site Conservation Objectives
			<p>defences preventing dynamic coastal change and increasing the risk of severe erosion.</p> <p>Inputs of herbicides to the mudflats may be having indirect effects on the loss of intertidal habitats and viability of the eelgrass <i>Zostera</i> beds.</p> <p>The marsh suffers from lack of freshwater inputs due to low rainfall and would be highly vulnerable to the effects of over abstraction.</p> <p>There is a further possible threat from an increase in the level of effluent due to development.</p>	<p>Article 4.2 Qualification: An internationally important assemblage of birds Over winter the area regularly supports 34789 waterfowl including: <i>Branta bernicla bernicla</i> , <i>Charadrius hiaticula</i> , <i>Pluvialis squatarola</i> , <i>Calidris canutus</i> , <i>Calidris alpina alpina</i></p>

Appendix 2: Relevant Plans Review

Dartford Core Strategy 2006-2011	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>The Dartford Core Strategy is the key Development Plan Document within the Dartford Local Development Framework (LDF). The Core Strategy sets the LDF's long-term spatial Vision and Strategic Objectives for development planning and it considers the options available through the planning system to the Council and communities in the Dartford Borough area.</p>	<p>The strategy sets out: <i>A spatial Vision for future development within Dartford Borough to 2026</i> <i>Strategic Objectives</i> for the Local Development Framework Preferred Policy Approaches relating to: the Scale of Growth and Spatial Vision; Housing and Communities; Economic Development; Shopping; Dartford Town Centre; Environmental Assets (including the natural environment); Culture, Leisure, Sport and Recreation; Transport; Development Impacts; and Monitoring.</p> <ul style="list-style-type: none"> ▪ Housing growth – associated development/ construction and ongoing pressures from increased population e.g. recreation ▪ Provision of employment, potential impacts on air quality, soil and water, growth in requirement for waste management ▪ Enhanced transport infrastructure, potential impacts on air, water, land, landscape and townscape

Kent Local Transport Plan 2006-2011	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>The document sets out the vision for transport in Kent and how this will be achieved</p>	<p>Increase road maintenance to improve road quality, increase public transport and reduce traffic flows,</p> <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Increase traffic generation ▪ Increase in waste ▪ Potential impacts on air, noise and water pollution ▪ Increased access to sites via public transport ▪ Site disturbance
Creating Sustainable Communities: Greening the Gateway; a Greenspace Strategy for Thames Gateway (ODPM/DEFRA 2004) Creating Sustainable Communities: Greening the Gateway: Implementation Plan (ODPM/DEFRA 2005)	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>The objectives:</p> <ul style="list-style-type: none"> ▪ that a network of varied and well-managed greenspace should be the setting for new and existing residential and commercial areas; ▪ that the landscape should be regarded as functional green infrastructure, recognising a wide range of potential benefits from healthy recreation, to wildlife protection and enhancement, to flood risk management. 	<p>Encouraging inclusiveness and integration (integrating landscapes, private and public, green and built), protecting local character and distinctiveness, protecting designated sites (from SAMs to local and international ecological designations), habitat restoration and creation, a dynamic landscape (land management should be responsive, making use of temporary brown field sites, and combining greenspace with flood management, etc).</p> <ul style="list-style-type: none"> ▪ Housing growth – associated development/ construction and ongoing pressures from increased population e.g. recreation ▪ Enhanced transport infrastructure, potential impacts on air,

	<p>water, land, landscape and townscape</p> <ul style="list-style-type: none"> ▪ Increased recreational pressures
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Waterfronts and Waterways in Kent Thameside – A Strategic Agenda 2005	
Aim of the document	Elements of the plan that could cause ‘in-combination’ effects
<p>The paper represents a synopsis of the issues and opportunities of the Kent Thameside area raised by stakeholders and relevant Government Agencies. The Kent Thameside Delivery Board aims to provide the strategic leadership required to secure optimal use of this unique asset, and to create a waterfront to international standards.</p>	<p>The principal waterfront opportunity sites in Kent Thameside are:</p> <ul style="list-style-type: none"> ▪ River Darent – neglected site with little public access, proposed plans recommend a mix of employment, retail and residential uses with landscaped promenade linking the town centre. ▪ Dartford Marsh – enormous potential as major open space due to designation as potential SSSI. ▪ Dartford Wharves and Ports – stakeholders wish to see these ports safeguarded for continued operational use. ▪ Greenhithe and Swanscombe Peninsula West – valued asset should be maintained for river related use. ▪ Swanscombe Peninsula East and Northfleet Embankment – conflict between industrial and residential use, problems with access ▪ Gravesend Town Centre – proximity to waterfront gives major advantage over other Thames Gateway towns. ▪ The Canal Basin Area and the Thames and Medway Canal – important feature in terms of local heritage, recreation potential and nature conservation. ▪ Blue Lake – major landscape feature provide dramatic setting for business/office space leisure development. <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Increase in waste

	<ul style="list-style-type: none"> ▪ Increase in abstraction rates and water use ▪ Potential impacts on air, noise and water pollution ▪ Indirect effects via recreation ▪ Obstruct foraging routes ▪ Reduced area of adjacent habitats ▪ Increased access to sites via public transport ▪ Site disturbance ▪ Increase traffic generation ▪ Pollution from runoff
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Thames Estuary 2100 Project (TE2100)	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>The Environment Agency's Thames Estuary 2100 project (TE2100), is developing a tidal flood risk management plan for London and the Thames estuary.</p>	<p>Tidal defences in the context of the wider Thames Estuary setting; Assessing the useful life of the existing defences and gaining an understanding of the 'drivers' (i.e. climate change, urban development, social pressures and the environment); Inform and gain support of political and funding partners and stakeholders; and Prepare and manage a programme of studies (linked with consultation) that will eventually lead to a strategy for flood risk management in the Thames Estuary for the next 100 years</p> <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Potential impacts on air, noise and water pollution ▪ Reduced area of adjacent habitats ▪ Site disturbance ▪ Pollution from runoff

Thames Gateway Strategic Framework Interim Report: Key Points, Policy Framework, Development Prospectus/Technical Annex 2006	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<ul style="list-style-type: none"> ▪ The Interim Report describes in more detail what is planned for the three sub-regions of the Gateway (London, South Essex and North Kent) and what developments are going to happen when with supporting information and links to data sources and other research. 	<p>The strategy will build on the following opportunities:</p> <ul style="list-style-type: none"> ▪ economic opportunity in the key transformational locations – Canary Wharf, Ebbsfleet Valley, the Olympic site/Stratford City and the Gateway Ports cluster ▪ housing opportunity to accommodate the region’s growing workforce and improve conditions for current residents ▪ employment opportunity in town centres and in key regeneration areas, developing the potential in local businesses and brownfield sites ▪ environmental opportunity through the creation of the Thames Gateway Parklands and new approaches to addressing climate change and flood risk ▪ community opportunity through investment in education and training, better quality public services and support for inclusive communities. <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Increase in waste ▪ Increase in abstraction rates and water use ▪ Potential impacts on air, noise and water pollution ▪ Indirect effects via recreation ▪ Obstruct foraging routes ▪ Reduced area of adjacent habitats ▪ Increased access to sites via public transport

	<ul style="list-style-type: none"> ▪ Site disturbance ▪ Increase traffic generation ▪ Pollution from runoff
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Thames Gateway Interim Plan 2006	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>This document is Government and The Thames Gateway Strategic Partnerships statement of common purpose that reflects their ambitions for the Gateway and how they will work together to achieve them. It aims to build on the opportunities offered by the Gateway.</p>	<p>A statement of common purpose that reflects ambitions for the Gateway, it explains how they will build on the opportunities it offers including economic opportunity in key locations and housing opportunity to accommodate the region's growing workforce.</p> <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Increase in waste ▪ Increase in abstraction rates and water use ▪ Contribution to traffic generation ▪ Potential impacts on air, noise and water pollution ▪ Indirect effects via recreation ▪ Obstruct foraging routes ▪ Reduced area of adjacent habitats ▪ Increased access to sites via public transport ▪ Site disturbance ▪ Increase traffic generation ▪ Pollution from runoff

Strategic Planning Guidance for the River Thames – RPG3B/9B 1997	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>Sets out the Governments planning policies for the</p>	<p>For the built environment:</p>

<p>River Thames and gives formal planning guidance to local planning authorities. Guidance presents a vision for the river to enhance its status and vitality and develop and exploit its potential.</p>	<ul style="list-style-type: none">- Enhance vitality of river front development potential and attract a range of users. Regenerate redundant land. <p>River and Riverside</p> <ul style="list-style-type: none">- Encourage transport potential of river.- Promote the river for recreational purposes.- Maintain and improve public access to, along and across the river. <ul style="list-style-type: none">▪ Construction process – direct impacts and knock on effects▪ Contribution to traffic generation▪ Contribution to water traffic movement▪ Obstruct foraging routes▪ Reduced area of adjacent habitats▪ Site disturbance▪ Increase access to sites▪ Potential impacts on air, noise and water pollution▪ Indirect effects via recreation
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South East Plan; A Clear Vision for the South East 2006	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>The plan outlines how the region will go about responding to challenges facing the area including housing, economy, transport and the conservation of the environment. The aim to sustain the quality of life whilst remaining economically successful and promoting the area as an attractive place to live corresponds to the sustainable approach the region will take in implementing the plan.</p>	<p><u>Housing</u></p> <ul style="list-style-type: none"> ▪ Providing at least 60% of new housing on brownfield sites. ▪ Increase housing density to an average 40 dwellings per hectare. ▪ 15,700 new dwellings in Dartford from 2006 to 2026. <p><u>Transport and Communications</u></p> <ul style="list-style-type: none"> ▪ Managing transport systems to exploit existing capacity combined with an increased investment in public transport, cycling and pedestrian areas. ▪ Improving access to international and regional gateways. ▪ Accept major future role for road freight but encourage railways to increase share. <p><u>Natural Resource Management</u></p> <ul style="list-style-type: none"> ▪ Improve management of water resources and quality including greater water efficiency and development of new reservoirs. ▪ Decrease the risk of flooding including the use of Sustainable Drainage Systems. ▪ Protect ancient woodlands and ensure better management and expansion of key wildlife habitats. ▪ Improve air quality and noise reduction. ▪ Expand the use of renewable energy – setting a target for developers that at least 10% of new developments energy needs are met by renewables. ▪ Promote higher energy efficiency. <p><u>Waste and Minerals</u></p> <ul style="list-style-type: none"> ▪ Minimise reliance on landfill through recycling and composting. ▪ Provide increased facilities for recycling and recovery. ▪ Reduce waste exported from London for disposal in the South

	<p>East.</p> <ul style="list-style-type: none"> ▪ Promote use of sustainable construction techniques and recycled aggregates. ▪ Construction process – direct impacts and knock on effects ▪ Increase in waste ▪ Increase in abstraction rates and water use ▪ Contribution to traffic generation ▪ Potential impacts on air, noise and water pollution ▪ Indirect effects via recreation ▪ Obstruct foraging routes ▪ Reduced area of adjacent habitats ▪ Increased access to sites via public transport ▪ Site disturbance ▪ Increase traffic generation ▪ Pollution from runoff
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South East England Regional Assembly Strategy for Energy Efficiency and Renewable Energy 2004	
Aim of the document	Elements of the plan that could cause ‘in-combination’ effects
<p>A regional strategy plan to increase the efficiency of energy use and substantially increase the proportion of energy from renewable sources.</p>	<p>To generate 5.5% of energy from renewable sources by 2010, and by 2026 16%. Kent’s renewable energy target by 2010 is 111MW and by 2016 154 MW. The region has greatest potential to achieve this through onshore wind development. The Thames Estuary is one of three strategic areas identified for offshore wind development.</p> <ul style="list-style-type: none"> ▪ Obstruction to birds migratory flight paths ▪ Construction process – direct impacts and knock on effects ▪ Contribution to traffic generation

	<ul style="list-style-type: none"> ▪ Obstruct foraging routes ▪ Reduced area of adjacent habitats ▪ Site disturbance
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The London Plan 2004	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>The London Plan replaces existing strategic guidance, and boroughs' local plans must be in 'general conformity' with it. The London Plan acts as the spatial framework integrating crosscutting themes: the health of Londoners, equality of opportunity and its contribution to sustainable development in the UK. The London Plan is required to take account of the European Spatial Development Perspective and other EU Directives. The London Plan includes sub-regions of which the East London objectives are likely to include in combination effects.</p>	<p>The strategic priorities for the East London sub-region will be to:</p> <ul style="list-style-type: none"> ▪ deliver the London element of the government's priority for the Thames Gateway for development, regeneration and transport improvement, while recognising the links with other parts of the Thames Gateway and the London-Stansted-Cambridge corridor ▪ identify capacity to accommodate new job and housing opportunities and appropriate mixed-use development ▪ maximise the number of additional homes, including affordable housing, by exceeding housing provision targets set out in this plan, and secure mixed and balanced communities ▪ ensure that new development is sustainable, safe, secure and well designed. Special attention should be paid to long-term flood risk ▪ plan for waste facilities in line with the principle of self-sufficiency, including limited provision to meet part of central London's needs. <p>East London should plan for a minimum 104,000 additional homes and 249,000 jobs up to 2016.</p> <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Contribution to traffic generation ▪ Increased air, noise and water pollution ▪ Increased pressure on abstraction levels

	<ul style="list-style-type: none"> ▪ Increased levels of effluents
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The East of England Plan	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>Draft spatial strategy to guide development in the East of England for at least the next 20 years to sustain and improve the quality of life for all people who live in, work in, or visit the region, by developing a more sustainable, prosperous and outward-looking region, while respecting its diversity and enhancing its assets.</p>	<ul style="list-style-type: none"> ▪ make more use of previously developed land and existing buildings, and use land more efficiently, in meeting future development needs ▪ meet the region's identified housing needs, and in particular provide sufficient affordable housing ▪ protect and enhance the built and historic environment ▪ protect and enhance the natural environment, including its biodiversity and landscape character ▪ minimise the environmental impact of travel, by reducing the need to travel, encouraging the use of more environmentally friendly modes of transport, and widening choice of modes ▪ minimise the risk of flooding. <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Contribution to traffic generation ▪ Increased air, noise and water pollution ▪ Increased pressure on abstraction levels ▪ Increased levels of effluents

Medway Local Plan	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>Plan sets out the policies and proposals for the control and regulation of development, both general and site specific, and the rationale behind them.</p>	<ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Contribution to traffic generation ▪ Increased air, noise and water pollution ▪ Increased pressure on abstraction levels ▪ Increased levels of effluents
The Adopted Kent and Medway Structure Plan 2006	
Aim of the document	Elements of the plan that could cause 'in-combination' effects
<p>Provides strategic guidance for development and includes policies on pollution control.</p>	<p>Provides for: at, and between, the principal urban areas of Dartford and Gravesend/Northfleet major mixed use developments based on previously developed or other damaged land. Development will be comprehensively planned, including appropriate measures to integrate new development with existing communities, and phased in conjunction with the provision of new highway and public transport infrastructure, community services and facilities, air quality management initiatives, flood defences, and water resources and wastewater treatment infrastructure.</p> <p>Potential in-combination impacts arising from housing and economic development, population growth associated travel and recreational pressures.</p> <ul style="list-style-type: none"> ▪ Construction process – direct impacts and knock on effects ▪ Contribution to traffic generation ▪ Increased air, noise and water pollution ▪ Increased pressure on abstraction levels ▪ Increased levels of effluents

Appendix 2

	<ul style="list-style-type: none">▪ Increased access to sites via public transport▪ Site disturbance
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Appendix 3: Habitat Regulations Assessment Screening

Town Centre AAP: European Sites within buffer zone

Habitat Regulations Assessment Screening Table: Town Centre AAP	
Site	THAMES ESTUARY & MARSHES Unitary Authorities: Kent, Essex Area Ramsar (ha): 5588.59 Area SPA (ha): 4838.94
Qualifying Interests	<p>Ramsar Site Criterion</p> <p>Criterion 2: Site supports one endangered plant species (<i>Lactuca saligna</i>) and at least 14 nationally scarce plants of wetland habitats. Site also supports 20 British Red Data Book invertebrates.</p> <p>Criterion 5: Assemblages of international importance – species with peak counts in winter, 75019 waterfowl.</p> <p>Criterion 6: Species/populations occurring at levels of international importance.</p> <ul style="list-style-type: none"> - Ringer plover (<i>Charadrius hiaticula</i>) 2.6% of the GB population - Black tailed Godwit (<i>Limosa limosa islandica</i>) 2.6% of the GB population - Grey plover (<i>Pluvialis squatarola</i>) 1.7% of the GB population - Red knot (<i>Calidris canutus</i>) 1.4% of the population - Common redshank (<i>Tringa tetanus</i>) 2.2% of the GB population - Avocet (<i>Recurvirostra avosetta</i>) 28.3% of the GB population - Hen Harrier (<i>Circus cyaneus</i>) 1.0% of the GB population <p>SPA</p> <p>Over winter the area regularly supports (Article 4.1):</p> <ul style="list-style-type: none"> - <i>Circus cyaneus</i> 1% of the population in GB

	<ul style="list-style-type: none"> - <i>Recurvirostra avosetta</i> 28.3% of the population in GB <p>Over winter the area regularly supports (Article 4.2):</p> <ul style="list-style-type: none"> - <i>Calidris alpine alpine</i> 2.1% of the population - <i>Calidris canutus</i> 1.4% of the population - <i>Limosa limosa islandica</i> 2.4% of the population - <i>Pluvialis squatarola</i> 1.7% of the population - <i>Tringa tetanus</i> 2.2% of the population <p>On passage the area regularly supports:</p> <ul style="list-style-type: none"> - <i>Charadrius hiaticula</i> 2.6% of the population - <p>Article 4.2 Qualification: An internationally important assemblage of birds: Over winter the area regularly supports 75019 waterfowl including <i>Recurvirostra avosetta</i> , <i>Pluvialis squatarola</i> , <i>Calidris canutus</i> , <i>Calidris alpina alpina</i> , <i>Limosa limosa islandica</i></p>
<p>Site Vulnerabilities</p>	<p>There is evidence of coastal squeeze (<i>rising sea levels causing intertidal habitats to migrate landwards, however in built up areas landward retreat is not possible due to presence of a sea wall or flood defences. In addition development usually takes place immediately behind such defences so the wall cannot be moved landwards to accommodate the managed retreat of vulnerable sites</i>) and erosion of intertidal habitats within the site. Erosion of the salt marsh a contributory factor in coastal squeeze at this site.</p> <p>Terrestrial part of site is dependant on grazing and water management, which may be affected by the agricultural market and development pressures.</p> <p>Development pressures may lead to indirect hydrological effects and direct land take from the site. However development cannot lead to a net loss of grazing marsh habitat as it is an important habitat for SPA species.</p> <p>Studies indicate the waters in the Thames are hyper-nitrified for nitrogen and phosphorus and further studies are necessary to identify if this is having an adverse effect on the integrity of the site.</p> <p>The site is at risk from incidental pollution due to probable increase in shipping as a result of investment and port development.</p>

Appendix 3

There is a further possible threat from an increase in the level of effluent due to development.				
The grazing marsh habitat is an important habitat for SPA species.				
Potential Impacts from the AAP	Risk of Significant Effect?	Potential Impacts – other Plans and Programmes	Risk from ‘In Combination’ Effects?	AA Required
<p>Development of new homes in Dartford may result in increased recreational pressure. The Town Center AAP policies provide for extensive new recreational and leisure facilities within the Town. A variety of accessible recreational facilities will act to mitigate potential for increased recreation pressures at distant SAC/SPA sites.</p> <p>Potential increase in abstraction, however EA indicated that alternative abstraction points are available ensuring that damaging levels of abstraction within the Thames Estuary and Marshes catchment is unlikely to be permitted. (Reservoir infrastructure planned to meet development needs in Dartford).</p> <p>On Environment Agency advice it is not considered that the development of new homes and increased volumes of effluent disposal will exacerbate high nutrient levels leading to adverse effects on sites. ¹</p> <p>Potential surface and groundwater contamination during the construction process and as a result of new, high levels of development.</p>	No – mitigation measures in place	<ul style="list-style-type: none"> ■ Thames Estuary 2100 Project ■ The Draft Regional Spatial Strategy for the South East 2006-2026 ■ Housing development under the South East Plan and associated increased car use may lead to increased atmospheric pollution and nitrogen enrichment, resulting in changes to the habitats on which the species of European Importance depend. ■ Waterfronts and Waterway in Kent Thameside - A Strategic Agenda 2005 	Other plans and programmes outwith the Town Centre AAP are more likely to have an impact on site integrity.	No

¹ Scott Wilson & Levett-Therivel 2006, *Appropriate Assessment of the Draft South East Plan*

Appendix 3

<p>Potential impacts on air quality (from building and transport activity increases associated with development) however, unlikely that assessment would be able to link changes to air quality at sites with this development work – would require a regional approach. The Town Centre AAP includes policies to mitigate impacts on air quality, including increased provision of public transport, improved pedestrian routes and a requirement for all new developments to make a contribution towards measures to offset adverse air quality impacts that may result from development</p>				
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Habitat Regulations Assessment Screening Table: Town Centre AAP	
Site	NORTH DOWNS WOODLAND Unitary Authorities: Kent, Medway Area (ha): 287.58
Qualifying Interests	<p>SAC Annex 1 Habitats primary reason for selection:</p> <ul style="list-style-type: none"> - <i>Asperulo-Fagetum</i> beech forests - <i>Taxus baccata</i> woods of the British Isles <p>Annex II habitats qualifying feature for selection:</p> <ul style="list-style-type: none"> - Semi-dry natural grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)
Site Vulnerabilities	<p>The chalk grassland requires continuous grazing, which is not achieved over parts of this site. This may be affected by the agricultural market and development pressures.</p> <p>There are increased recreational pressures due to development.</p>

	It is also not possible to rule out adverse effects to the site due to urbanisation from ongoing development.			
Potential Impacts from AAP	Risk of Significant Effect?	Potential Impacts – other Plans and Programmes	Risk from ‘In Combination’ Effects?	AA Required
<p>Development of new homes and business floorspace in Dartford and the consequent increase in car use may cause air pollution. This site has some vulnerability to reduced air quality. However, there are no direct road links (other than existing) planned between the development sites and this site. Changes to air quality would need to be considered at a regional level and the impacts of the Town Centre AAP alone are not considered significant. The Town Centre AAP includes policies to manage traffic movements and improve accessibility to public transport.</p> <p>The focus of development is away from this site (north of the A2 road) and the AAP policies include aims to develop access to local recreational spaces e.g. the River Darent Valley Path which will provide mitigation.</p>	<p>No. Risk of direct impacts from the APP are unlikely due to the distance from the designated site and policies proposed which will act as mitigation.</p>	<p>None</p>	<p>Other plans and programmes outwith the Town Centre AAP are more likely to have an impact on site integrity.</p>	<p>No</p>

Habitat Regulations Assessment Screening Table: Town Centre AAP	
Site	MEDWAY ESTUARY & MARSHES Unitary Authorities: Kent Area Ramsar (ha): 4969.74 Area SPA (ha): 4684.36
Qualifying Interests	<p>Ramsar Site Criterion</p> <p>Criterion 2: Site supports number of rare plant and animal species</p> <ul style="list-style-type: none"> - <i>Hordeum marinum</i> sea barley - <i>Parapholis incurve</i> curved hard-grass - <i>Polypogon monspeliensis</i> annual beard-grass - <i>Puccinellia fasciculata</i> Borrer's saltmarsh-grass - <i>Bupleurum tenuissimum</i> slender hare's-ear - <i>Trifolium squamosum</i> sea clover - <i>Chenopodium chenopodioides</i> saltmarsh goose-foot - <i>Inula crithmoides</i> golden samphire - <i>Sarcocornia perennis</i> perennial glasswort - <i>Salicornia pusilla</i> one-flowered glasswort - <p>Total of at least twelve British Red Data Book species of wetland invertebrates have been recorded on the site.</p> <p>Criterion 5: Assemblages of international importance – species with peak count in winter 47637 waterfowl</p> <p>Criterion 6: Species/populations occurring at levels of international importance</p> <ul style="list-style-type: none"> - Grey plover 1.2% of the population - Common redshank 1.4% of the population - Dark-bellied brent goose 1.1% of the population - Common shelduck 3.3% of the GB population

- Northern pintail 1.8% of the population
- Ringed plover 1.6% of the GB population
- Red knot 1% of the population
- Dunlin 1.4% of the GB population

SPA

During the breeding season the area regularly supports (Article 4.1):

- *Recurvirostra avosetta* 6.2% of the GB breeding population
- *Sterna albifrons* 1.2% of the GB breeding population
- *Sterna hirundo* 0.6% of the GB breeding population

Over winter the area regularly supports:

- *Cygnus columbianus bewickii* 0.2% of the GB population
- *Recurvirostra avosetta* 24.7% of the GB population

Over winter the area regularly supports (Article 4.1):

- *Anas acuta* 1.2% of the population
- *Anas clypeata* 0.8% of the population in GB
- *Anas crecca* 1.3% of the population in GB
- *Anas Penelope* 1.6% of the population in GB
- *Arenaria interpres* 0.9% of the population in GB
- *Branta bernicla bernicla* 1.1% of the population
- *Calidris alpine alpine* 1.9% of the population
- *Calidric canutus* 0.2% of the population
- *Charadrius hiaticula* 1.6% of the population
- *Haematopus ostralegus* 1% of the population in GB
- *Limosa limosa islandica* 12.9% of the population in GB
- *Numenius arquata* 1.7% of the population in GB
- *Pluvialis squatarola* 2% of the population
- *Tadorna tadorna* 1.5% of the population
- *Tringa nebularia* 2.6% of the population in GB
- *Tringa tetanus* 2.1% of the population

Article 4.2 Qualification: An internationally important assemblage of birds:

During the breeding season the area regularly supports *Alcedo atthis*, *Anas platyrhynchos*, *Asio*

	<p><i>flammeus, Aythya ferina, Circus cyaneus, Falco columbarius, Gavia stellata, Phalacrocorax carbo, Vanellus vanellus.</i></p> <p>Over winter the area regularly supports 65496 waterfowl including: <i>Gavia stellata, Podiceps cristatus, Phalacrocorax carbo, Cygnus columbianus bewickii, Branta bernicla bernicla, Tadorna tadorna, Anas penelope, Anas crecca, Anas platyrhynchos, Anas acuta, Anas clypeata, Aythya ferina, Haematopus ostralegus, Recurvirostra avosetta, Charadrius hiaticula, Pluvialis squatarola, Vanellus vanellus, Calidris canutus, Calidris alpina alpina, Limosa limosa islandica, Numenius arquata, Tringa totanus, Tringa nebularia, Arenaria interpres</i></p>
<p>Site Vulnerabilities</p>	<p>Continued maintenance dredging for port may be contributing to the removal of sediment from the estuary and other adverse effects.</p> <p>Possible disturbance to site from water borne recreation and this pressure may increase due to development.</p> <p>Studies indicate the waters in the Thames are hyper-nitrified for nitrogen and phosphorus and further studies are necessary to identify if this is having an adverse effect on the integrity of the site.</p> <p>Review necessary to address the effects of abstraction on the availability of water for drainage for arable cultivation and other land uses.</p> <p>Terrestrial part of site is dependant on grazing and water management, which may be affected by the agricultural market and development pressures.</p> <p>Development, transport and industrial, pressures may lead to indirect hydrological effects and direct land take from the site.</p> <p>The site is at risk from incidental pollution due to probable increase in shipping as a result of investment and port development.</p> <p>There is a further possible threat from an increase in the level of effluent due to development.</p> <p>The grazing marsh habitat is an important habitat for SPA species.</p>

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Potential Impacts from AAP	Risk of Significant Effect?	Potential Impacts – other Plans and Programmes	Risk from ‘In Combination’ Effects?	AA Required
<p>Development of new homes in Dartford may result in, increased pollution (atmospheric and water based) as well as greater recreational pressures. Additional recreational pressures including water-based recreation are unlikely to result from the AAP, which includes key policies focused on maintaining and developing Town Centre based leisure and recreation opportunities for the resident and expanding population.</p> <p>On Environment Agency advice it is not considered that the development of new homes and increased volumes of effluent disposal will exacerbate high nutrient levels leading to adverse effects on sites. ²</p>	<p>No – mitigation measures are in place</p>	<ul style="list-style-type: none"> ■ Thames Estuary 2100 Project ■ The Draft Regional Spatial Strategy for the South East 2006-2026 ■ Housing development under the South East Plan and associated increased car use may lead to increased atmospheric pollution and nitrogen enrichment, resulting in changes to the habitats on which the species of European Importance depend. 	<p>Other plans and programmes outwith the Town Centre AAP are more likely to have an impact on site integrity.</p>	<p>No</p>

² Scott Wilson & Levett-Therivel 2006, *Appropriate Assessment of the Draft South East Plan*

Habitat Regulations Assessment Screening Table: Town Centre AAP	
Site	BENFLEET & SOUTHEND MARSHES Unitary Authorities: Essex Area Ramsar (ha): 2251.31 Area SPA (ha): 2251.31
Qualifying Interests	<p>Ramsar Site Criterion</p> <p>Criterion5: Assemblages of international importance – species with peak counts in winter 32867 waterfowl</p> <p>Criterion6: Species populations occurring at levels of international importance.</p> <ul style="list-style-type: none"> - Dark-bellied brent goose 2.1% of the population - Grey plover 3.2% of the GB population - Red knot 1.4% of the population <p>SPA</p> <p>Over winter the area regularly supports (Article 4.2):</p> <ul style="list-style-type: none"> - <i>Branta bernicla bernicla</i> 1.3% of the population - <i>Calidris alpina alpina</i> 2.1% of the population in GB - <i>Calidris canutus</i> 2.6% of the population - <i>Charadrius hiaticula</i> 1.3% of the population in GB - <i>Pluvialis squatarola</i> 2.3% of the population <p>Article 4.2 Qualification: An internationally important assemblage of birds Over winter the area regularly supports 34789 waterfowl including: <i>Branta bernicla bernicla</i> , <i>Charadrius hiaticula</i> , <i>Pluvialis squatarola</i> , <i>Calidris canutus</i> , <i>Calidris alpina alpina</i></p>
Site Vulnerabilities	Vulnerability linked to changes in the physical environment especially coastal squeeze.

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	<p>Indirect recreational pressures to facilitate visitor attractions are leading to piecemeal development and disturbance is caused to the site through construction. Area vulnerable to increased recreational pressures.</p> <p>Wildfowling and cockle fishing are threats but are well regulated by agreement.</p> <p>Studies indicate the waters in the Thames are hyper-nitrified for nitrogen and phosphorus and further studies are necessary to identify if this is having an adverse effect on the integrity of the site. Construction of new road bridge resulted in the loss of some designated habitat and caused disturbance to the site during construction.</p> <p>Continued maintenance dredging for port may be contributing to the removal of sediment from the estuary and other adverse effects.</p> <p>Rising sea levels and sinking land levels are compounded by coastal flood defences preventing dynamic coastal change and increasing the risk of severe erosion.</p> <p>Inputs of herbicides to the mudflats may be having indirect effects on the loss of intertidal habitats and viability of the eelgrass <i>Zostera</i> beds.</p> <p>The marsh suffers from lack of freshwater inputs due to low rainfall and would be highly vulnerable to the effects of over abstraction.</p> <p>There is a further possible threat from an increase in the level of effluent due to development.</p>			
Potential Impacts from AAP	Risk of Significant Effect?	Potential Impacts – other Plans and Programmes	Risk from ‘In Combination’ Effects?	AA Required
Development of new homes in Dartford may result in increased recreational pressure. However, given the relative distance of this site from the new developments in Dartford any contribution is not	Risk of direct impacts from the AAP is unlikely due to the distance	<ul style="list-style-type: none"> ■ Thames Estuary 2100 Project ■ The Draft Regional Spatial Strategy for the South East 2006-2026 	Other plans and programmes outwith the Town Centre	No

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<p>likely to be significant.</p> <p>Development of new homes and business floorspace in Dartford may result in increased volumes of effluent disposal into the estuary. Some of which if poorly managed, has the potential to reach the Benfleet and Southend Marshes. This could lead to a decline in water quality, principally due to increased nutrient inputs. However, given the distance of the site from the points of discharge within the South East, any contribution is likely to be minor. ³</p> <p>There are potential impacts on air quality (from building and transport activity increases associated with development) however, it is unlikely that assessment would be able to link changes to air quality at sites with this development work – would require a regional approach. The Town Centre AAP includes policies to manage potential adverse impacts on air quality from development.</p>	<p>from the designated site.</p>	<ul style="list-style-type: none"> ■ Housing development under the South East Plan and associated increased car use may lead to increased atmospheric pollution and nitrogen enrichment, resulting in changes to the habitats on which the species of European Importance depend. 	<p>AAP are more likely to have an impact on site integrity.</p>	
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³ Scott Wilson & Levett-Therivel 2006, *Appropriate Assessment of the Draft South East Plan*