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# Habitat Regulations Assessment of the Submission Stage Hackney Core Strategy

## Appropriate Assessment – Final Report

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# 1 INTRODUCTION

## 1.1 Current Legislation

- 1.1.1 The need for Appropriate Assessment is set out within Article 6 of the EC Habitats Directive 1992, and interpreted into British law by Regulation 48 of the Conservation (Natural Habitats &c) Regulations 1994 (as amended in 2007). The ultimate aim of HRA is to “maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest” (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites themselves, although the sites have a significant role in delivering favourable conservation status.
- 1.1.2 The Habitats Directive applies the precautionary principle to protected areas (Special Areas of Conservation, SACs and Special Protection Areas, SPAs, collectively known as European sites and which comprise the Natura 2000 pan-European network). Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. This is in contrast to the SEA Directive which does not prescribe how plan or programme proponents should respond to the findings of an environmental assessment; merely that the assessment findings (as documented in the ‘environmental report’) should be ‘taken into account’ during preparation of the plan or programme. In the case of the Habitats Directive, plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.
- 1.1.3 In order to ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question:

### **Box 1. The legislative basis for Appropriate Assessment**

#### **Habitats Directive 1992**

Article 6 (3) states that:

*“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives.”*

#### **Conservation (Natural Habitats &c. Regulations) 1994 (as amended)**

Regulation 48 states that:

*“A competent authority, before deciding to ... give any consent for a plan or project which is likely to have a significant effect on a European site ... shall make an appropriate assessment of the implications for the site in view of that site’s conservation objectives”.*

- 1.1.4 In October 2005, the European Court of Justice ruled that the UK had failed to correctly transpose the provisions of Articles 6(3) and (4) of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora – the Habitats Directive – into national law. Specifically, the UK had failed to ensure that land use plans are subject to Appropriate Assessment where the development that they propose might have a significant effect on a *Natura 2000* site.
- 1.1.5 Following the European Court ruling, the former Office of the Deputy Prime Minister (ODPM; now CLG) indicated that the regulations implementing the Habitats Directive in the UK would be amended to ensure that Appropriate Assessment explicitly applies to land use plans and the Conservation (Natural Habitats &c) Regulations 1994 were amended in 2007. It is Government policy (as described in Planning Policy Statement 9: Biodiversity & Geological Conservation) for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to *Natura 2000* sites. As such, Appropriate Assessments should also cover these sites.
- 1.1.6 Over the years the phrase ‘Habitat Regulations Assessment’ (HRA) has come into wide currency to describe the overall process set out in the Conservation (Natural Habitats &c) Regulations from screening through to IROPI. This has arisen in order to distinguish the *process* from the individual stage described in the law as an ‘appropriate assessment’. Throughout this report we use the term Habitat Regulations Assessment for the overall process and restrict the use of Appropriate Assessment to the specific stage of that name.

## 1.2 Scope and objectives

- 1.2.1 Scott Wilson has been appointed by the London Borough of Hackney to assist in undertaking a Habitat Regulations Assessment (HRA) of the potential effects of the Local Development Framework Core Strategy on the *Natura 2000* network. This is despite the absence of any European sites actually within the Borough itself, due to an acknowledgement that development within a borough can lead to adverse effects on European sites within neighbouring boroughs and to the fact that the Lee Valley SPA and Ramsar site abuts the north east boundary of the Borough.
- 1.2.2 Currently, the Local Development Framework (LDF) is at an early stage of development. The core LDF documents will ultimately consist of:
- Core Strategy;
  - Site-Specific Allocations;
  - Proposals Map;
  - Hackney Area Action Plan; and
  - Dalston Area Action Plan.
- 1.2.3 This current HRA report covers the Core Strategy only. As the subsequent DPD’s are produced, the assessment will be refreshed and updated. The LDF, alongside the London Plan, will supersede the current Hackney Unitary Development Plan (site allocations and generic development control policies) and regional planning guidance for London (strategic planning framework for the protection of the

environment, major transport priorities, and the scale, pattern and broad location of new development including provision for new housing and major economic development across London).

- 1.2.4 A Screening report presenting an evaluation of likely significant effects was produced by Scott Wilson in 2007. This current document summarises the results of that report and presents the results of the subsequent 'Appropriate Assessment' stage.
- 1.2.5 Chapter 2 of this report explains the process by which the HRA has been carried out. Chapter 3 explores the relevant pathways of impact and then summarises the initial screening assessment of the Preferred Options Core Strategy from 2007. Chapters 4 and 5 are organised on the basis of one chapter per European site. Each chapter begins with a consideration of the interest features and ecological condition of the site and environmental process essential to maintain site integrity. An assessment of the Core Strategy in respect of each European site is then carried out and avoidance and mitigation strategies proposed where necessary. The key findings are summarised in Chapter 6: Conclusions.

## 2 METHODOLOGY

### 2.1 Key principles

2.1.1 This section sets out the basis of the methodology for the HRA. Scott Wilson has adhered to several key principles in developing the methodology – see Table 1.

*Table 1 - Key principles underpinning the proposed methodology*

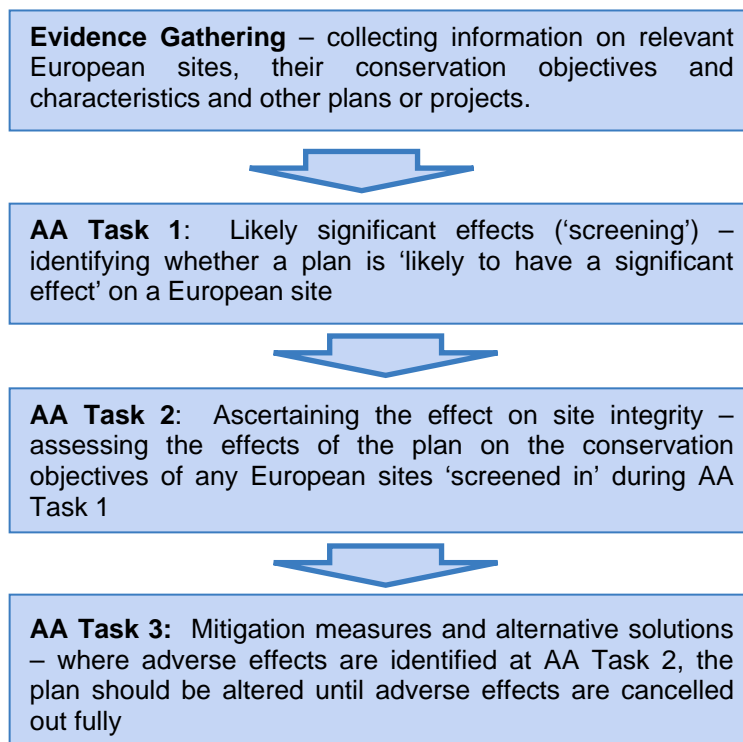
Principle	Rationale
<b>Use existing information</b>	We have used existing information to inform the assessment. This will include information gathered as part of the SA of the emerging LDF and information held by Natural England, the Environment Agency and others.
<b>Consult with Natural England, the Environment Agency and other stakeholders</b>	We have ensured continued consultation with both Natural England and the Environment Agency for the duration of the assessment. We will ensure that we utilise information held by them and others and take on board their comments on the assessment process and findings.
<b>Ensure a proportionate assessment</b>	We have ensured that the level of detail addressed in the assessment reflects the level of detail in the LDF (i.e. that the assessment is proportionate). With this in mind, the assessment will focus on information and impacts considered appropriate to the local level.
<b>Keep the process simple as possible</b>	We have endeavoured to keep the process as simple as possible while ensuring an objective and rigorous assessment in compliance with the Habitats Directive and emerging best practice.
<b>Ensure a clear audit trail</b>	We have ensured that the AA process and findings are clearly documented in order to ensure a clearly discernible audit trail.

### 2.2 Process

2.2.1 The HRA has been carried out in the absence of formal Government guidance. Communities and Local Government released a consultation paper on Appropriate Assessment of Plans in 2006<sup>5</sup>. As yet, no further formal guidance has emerged.

2.2.2 Figure 1 below outlines the stages of HRA according to current draft CLG guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no significant adverse effects remain.

<sup>5</sup> CLG (2006) *Planning for the Protection of European Sites*, Consultation Paper



**Figure 1 - Four-Stage Approach to Habitat Regulations Assessment**  
Source: CLG, 2006

## 2.3 Likely Significant Effects (LSE)

2.3.1 The first stage of any Habitat Regulations Assessment is a Likely Significant Effect (LSE) test - essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

*"Is the Plan, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?"*

2.3.2 The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon European sites, usually because there is no mechanism for an adverse interaction with European sites.

2.3.3 In this case, the plan as a whole was screened at its Preferred Options stage within the context of existing knowledge of the various ways in which development can impact on European sites, accumulated from carrying out HRA's across the country at all geographical scales (from individual projects through to Regional Spatial Strategies). That screening assessment is contained in a stand-alone report but is summarised for convenience in Chapter 3.

## 2.4 Appropriate assessment and mitigation

2.4.1 With regard to those European sites where it was considered not possible to 'screen out' the Core Strategy without detailed appraisal, it was necessary to progress to the later 'Appropriate Assessment' stage to explore the adverse effects and devise mitigation. That Appropriate Assessment stage is the purpose of this report.

2.4.2 The steps involved are detailed in Box 2.

***Box 2. The steps involved in the Appropriate Assessment exercise undertaken for the Tunbridge Wells Core Strategy***

1. Explore the reasons for the European designation of these sites.
2. Explore the environmental conditions required to maintain the integrity of the selected sites and become familiar with the current trends in these environmental processes.
3. Gain a full understanding of the plan and its policies and consider each policy within the context of the environmental processes – would the policy lead to an impact on any identified process?
4. Decide if the identified impact is likely to lead to an adverse effect.
5. Identify other plans and projects that might affect these sites in combination with the Plan and decide whether there any adverse effects that might not result from the Plan in isolation will do so "in combination".
6. Develop measures to avoid the effect entirely, or if not possible, to mitigate the impact sufficiently that its effect on the European site is rendered effectively inconsequential

2.4.3 In evaluating significance, Scott Wilson have relied on our professional judgement as well as stakeholder consultation. We believe that we are in an excellent position to provide such judgement given our previous experience in undertaking HRA of plans in the East of England, South East and North West at RSS, LDF and Area Action Plan levels.

2.4.4 The level of detail concerning developments that will be permitted under land use plans will never be sufficient to make a detailed quantification of adverse effects. Therefore, we have again taken a precautionary approach (in the absence of more precise data) assuming as the default position that if an adverse effect cannot be confidently ruled out, avoidance or mitigation measures must be provided. This is in line with CLG guidance that the level of detail of the assessment, whilst meeting the relevant requirements of the Habitats Regulations, should be 'appropriate' to the level of plan or project that it addresses (see Appendix 1 for a summary of this 'tiering' of assessment).

## 2.5 Confirming other plans and projects that may act in combination

- 2.5.1 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e. to ensure that those projects or plans which in themselves have minor impacts are not simply dismissed on that basis, but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential.
- 2.5.2 It is clearly neither practical nor necessary to assess the ‘in combination’ effects of the Core Strategy within the context of all other plans and projects within London. For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects relate to the additional housing, transportation and commercial/industrial allocations proposed for other neighbouring London authorities over the lifetime of the Core Strategy.
- 2.5.3 Plans and projects relevant to the pathways identified in screening have been identified in order to check whether the Core Strategy could cause significant impacts upon European sites in combination with their policies or activities. Potential impacts of the Core Strategy and identified pathways have been revisited according to this knowledge in order to identify any likely significant effects that may result in combination with the Core Strategy.
- 2.5.4 The London Plan provides a good introduction to proposals for areas surrounding the London Borough of Hackney (see Table 2). If one uses a multiplier of approximately 2.2 residents per household, this scale of development will result in the population of Hackney and its surrounding Borough’s will have increased by approximately 268,488 people by 2016 compared to 1997.

**Table 2. Housing levels to be delivered within Hackney and surrounding Boroughs under the London Plan**

Local Authority	Total housing from 1997 to 2016
Hackney	14,310 (10,850 between 2007 and 2016)
City of London	2,100
Haringey	19,370
Newham	17,770
Islington	18,070
Tower Hamlets	41,280
Waltham Forest	9,140
<b>Total</b>	<b>122,040</b>

- 2.5.5 There are other plans and projects that are often relevant to the ‘in combination’ assessment, most notably Thames Water’s Draft Water Resource Management Plan (April 2008) and the Environment Agency’s Thames Catchment Abstraction Management Strategy. These have all been taken into account in this assessment.

## 2.6 Physical scope of the assessment

2.6.1 There is no pre-defined guidance that dictates the physical scope of an HRA of a Core Strategy. Therefore, in considering the physical scope of the assessment, we were guided primarily by the identified impact pathways rather than by arbitrary 'zones'. Current guidance suggests that the following European sites be included in the scope of assessment:

- All sites within the authority's boundary; and
- Other sites shown to be linked to development within the authority's boundary through a known 'pathway' (discussed below)

2.6.2 Briefly defined, pathways are routes by which a change in activity within the Borough can lead to an effect upon a European site. In terms of the second category of European site listed above, CLG guidance states that the AA should be '*proportionate to the geographical scope of the [plan policy]*' and that '*an AA need not be done in any more detail, or using more resources, than is useful for its purpose*' (CLG, 2006, p.6).

2.6.3 No European sites lie within the London Borough of Hackney. However, one European site (Lee Valley SPA & Ramsar site) lies immediately adjacent to the northeast boundary of the Borough while further afield lies Epping Forest SAC, Richmond Park SAC and Wimbledon Common SAC. These European sites were therefore subject to consideration as to whether they have links with development within the borough via pathways as described in the screening appraisal in Chapter 3.

## 2.7 Policies scoped into the assessment

2.7.1 Since the initial screening exercise was undertaken at Preferred Options stage (i.e. before the development of draft policies) it is necessary in order to refine the scope of the Appropriate Assessment to undertake a brief screening exercise on draft policies within the Submission Core Strategy. This will focus the assessment on those policies that (generally because they affect the scale or location of development) may actually lead to adverse effects on European sites and allows the remaining draft policies to be put aside.

2.7.2 The following draft policies within the Submission Core Strategy were taken forward for Appropriate Assessment, since these are the elements that actively promote development within Hackney in order to achieve the aims set by the Regional Spatial Strategy and other requirements:

- Policy 1 (Growth Locations)
- Policy 2 (East London Line Corridor)
- Policy 3 (City Fringe – Shoreditch)
- Policy 4 (Woodberry Down New Community)
- Policy 5 (Hackney Wick New Community)
- Policy 6 (Transport)

- Policy 7 (Locating Infrastructure)
- Policy 14 (Town Centres)
- Policy 15 (Street Markets)
- Policy 16 (Night-Time Economy)
- Policy 17 (Employment Opportunities)
- Policy 18 (Employment Development & Hierarchy of Employment Priorities)
- Policy 19 (Promoting Viable Employment Land)
- Policy 20 (Housing Delivery)

2.7.3 The following policies were 'screened out' due to the lack of any mechanism whereby they could lead to adverse effects on European sites, primarily since they do not significantly affect the scale, quantum or location of new development:

- Policy 8 (Focussing Social Investment)
- Policy 9 (Investing in Education)
- Policy 10 (Lifelong Learning)
- Policy 11 (Health Investment & Infrastructure)
- Policy 12 (Pharmacies)
- Policy 13 (Health and Environment)
- Policy 21 (Affordable Housing)
- Policy 22 (Supported Housing Requirements)
- Policy 23 (Housing Density)
- Policy 24 (Provision for the Gypsies & Travellers)
- Policy 25 (General Design Principles)
- Policy 26 (Historic Environment)
- Policy 27 (Open Space Network)
- Policy 28 (Biodiversity)
- Policy 29 (Water & Waterways)
- Policy 30 (Resource Efficiency)
- Policy 31 (Low Carbon Energy, Renewable Technologies and District Heating)
- Policy 32 (Flood Risk)
- Policy 33 (Waste)
- Policy 34 (Promoting Sustainable Transport)

2.7.4 It should be noted that only policies that had the potential for a negative impact on European sites were screened into the assessment. This is due to the fact the HRA is only concerned with adverse effects

## 3 LIKELY SIGNIFICANT EFFECTS

### 3.1 Introduction

3.1.1 This section of the report summarises the various impact pathways that can link development with European sites and the results of the Likely Significant Effect test as set out in the methodology section. It was concluded that the Core Strategy could not be described *a priori* as being unlikely to result in significant adverse effects on European sites, because of the potential for adverse effects through the following impact pathways: urbanisation of Lee Valley SPA & Ramsar site, increased recreational pressure on both Lee Valley SPA/Ramsar and Epping Forest SAC, increased abstraction from the waterbodies within the Lee Valley SPA/Ramsar to achieve increased water resources, impacts on supporting habitat for the wintering bird interest of Lee Valley SPA and deteriorating air quality due to increased vehicle movements on roads immediately adjacent to the Lee Valley SPA/Ramsar and Epping Forest SAC.

### 3.2 Urbanisation

3.2.1 This impact is closely related to recreational pressure, in that they both result from increased populations within close proximity to sensitive sites. Urbanisation is considered separately as the detail of the impacts is distinct from the trampling, disturbance and dog-fouling that results specifically from recreational activity. The list of urbanisation impacts can be extensive, but core impacts can be singled out:

- Increased fly-tipping - Rubbish tipping is unsightly but the principle adverse ecological effect of tipping is the introduction of invasive alien species with garden waste. Garden waste results in the introduction of invasive aliens precisely because it is the 'troublesome and over-exuberant' garden plants that are typically thrown out<sup>6</sup>. Alien species may also be introduced deliberately or may be bird-sown from local gardens.
- Cat predation - A survey performed in 1997 indicated that nine million British cats brought home 92 million prey items over a five-month period<sup>7</sup>. A large proportion of domestic cats are found in urban situations, and increasing urbanisation is likely to lead to increased cat predation.

3.2.2 The most detailed consideration of the link between relative proximity of development to European sites and damage to interest features has been carried out with regard to the Thames Basin Heaths SPA.

3.2.3 After extensive research, Natural England and its partners produced a 'Delivery Plan' which made recommendations for accommodating development while also protecting the interest features of the European site. This included the recommendation of implementing a series of zones within which varying constraints would be placed upon development. While the zones relating to recreational

<sup>6</sup> Gilbert, O. & Bevan, D. 1997. The effect of urbanisation on ancient woodlands. *British Wildlife* 8: 213-218.

<sup>7</sup> Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174-188

pressure expanded to 5km (as this was determined from visitor surveys to be the principal recreational catchment for this European site), that concerning other aspects of urbanisation (particularly predation of the chicks of ground-nesting birds by domestic cats) was determined at 400m from the SPA boundary. The delivery plan concluded that the adverse effects of any development located within 400m of the SPA boundary could not be mitigated since this was the range within cats could be expected to roam as a matter of routine and there was no realistic way of restricting their movements, and as such, no new housing should be located within this zone.

- 3.2.4 No exact correlation can be made between the incidence of fly-tipping and deliberate arson and the specific proximity of large-scale human settlement, since it does depend on circumstances. However, it is reasonable to conclude that the incidence will be highest when human settlement is very near (for the purposes of this assessment we have as a precaution defined 'very near' as being within 500m rather than immediately adjacent). While this is not an empirically derived distance, it does enable urbanisation effects to be assessed at this high level. These impacts would need to be evaluated in more detail when individual site proposals and masterplans were developed.
- 3.2.5 Preferred policy option 17 described the locations of housing land up to the year 2023, and estate renewal areas across the borough. One of these estate renewal areas (Hackney Wick) was located approximately 500m from the Walthamstow Reservoir SSSI component of the Lee Valley SPA and Ramsar site. Moreover, preferred policy options 13 and 44 proposed an increase in density of residents within this area. All three of these policies could therefore have resulted in an increase in 'urbanisation' effects on the protected site (including waste/litter dumping or other vandalism in addition to an increase in the local cat population).
- 3.2.6 However, the screening report for this HRA identified that the increased density of residents in close proximity to the site was counterbalanced by the fact that, the site does lie on the very edge of the 500m zone of influence and is physically separated from the SSSI along the western boundary by the River Lee itself – which is likely to form a barrier to many urbanisation effects that are inherently casual in nature. As such, urbanisation effects (as distinct from those associated with recreational activity) were considered on balance to be unlikely to increase significantly and therefore lead to adverse effects on the SPA. Urbanisation was therefore screened out of consideration in the Appropriate Assessment.

### 3.3 Recreational pressure

- 3.3.1 All types of terrestrial European site can be affected by trampling, which in turn causes soil compaction and erosion. Walkers with dogs contribute to pressure on sites through nutrient enrichment via dog fouling and also have potential to cause greater disturbance to fauna as dogs are less likely to keep to marked footpaths. Motorcycle scrambling and off-road vehicle use can cause more serious erosion, as well as disturbance to sensitive species.

3.3.2 There have been several papers published that empirically demonstrate that damage to vegetation in woodlands and other habitats can be caused by vehicles, walkers, horses and cyclists:

- Wilson & Seney (1994)<sup>8</sup> examined the degree of track erosion caused by hikers, motorcycles, horses and cyclists from 108 plots along tracks in the Gallatin National Forest, Montana. Although the results proved difficult to interpret, it was concluded that horses and hikers disturbed more sediment on wet tracks, and therefore caused more erosion, than motorcycles and bicycles.
- Cole et al (1995a, b)<sup>9</sup> conducted experimental off-track trampling in 18 closed forest, dwarf scrub and meadow & grassland communities (each trampled between 0 – 500 times) over five mountain regions in the US. Vegetation cover was assessed two weeks and one year after trampling, and an inverse relationship with trampling intensity was discovered, although this relationship was weaker after one year than two weeks indicating some recovery of the vegetation. Differences in plant morphological characteristics were found to explain more variation in response between different vegetation types than soil and topographic factors. Low-growing, mat-forming grasses regained their cover best after two weeks and were considered most resistant to trampling, while tall forbs (non-woody vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. Cover of hemicryptophytes and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks, but had recovered well after one year and as such these were considered most resilient to trampling. Chamaephytes (plants with buds above the soil surface) were least resilient to trampling. It was concluded that these would be the least tolerant of a regular cycle of disturbance.
- Cole (1995c)<sup>10</sup> conducted a follow-up study (in 4 vegetation types) in which shoe type (trainers or walking boots) and trampler weight were varied. Although immediate damage was greater with walking boots, there was no significant difference after one year. Heavier trampers caused a greater reduction in vegetation height than lighter trampers, but there was no difference in effect on cover.
- Cole & Spildie (1998)<sup>11</sup> experimentally compared the effects of off-track trampling by hiker and horse (at two intensities – 25 and 150 passes) in two woodland vegetation types (one with an erect forb understorey and one with a low shrub understorey). Horse traffic was found to cause the largest reduction in vegetation cover. The forb-dominated vegetation suffered greatest

<sup>8</sup> Wilson, J.P. & J.P. Seney. 1994. Erosional impact of hikers, horses, motorcycles and off road bicycles on mountain trails in Montana. *Mountain Research and Development* 14:77-88

<sup>9</sup> Cole, D.N. 1995a. Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. *Journal of Applied Ecology* 32: 203-214

Cole, D.N. 1995b. Experimental trampling of vegetation. II. Predictors of resistance and resilience. *Journal of Applied Ecology* 32: 215-224

<sup>10</sup> Cole, D.N. 1995c. Recreational trampling experiments: effects of trampler weight and shoe type. *Research Note INT-RN-425*. U.S. Forest Service, Intermountain Research Station, Utah.

<sup>11</sup> Cole, D.N., Spildie, D.R. 1998. Hiker, horse and llama trampling effects on native vegetation in Montana, USA. *Journal of Environmental Management* 53: 61-71

disturbance, but recovered rapidly. Higher trampling intensities caused more disturbance.

- 3.3.3 Many wetland sites, and particularly the Lee Valley, are extensively used for recreational activity by people from a wide-ranging catchment that includes the whole of Hertfordshire and also draw visitors from further afield. Activities of walkers (particularly dog walkers) and water-borne recreation can, if carried out in winter, have a significant disturbing effect upon wintering waterfowl thus increasing energetic expenditure (as birds have to take flight more frequently) and competition on the less disturbed parts of the wetland<sup>12</sup>.
- 3.3.4 In all cases, more journeys were made by car than on foot. It should be noted that these are generalised figures; individual European sites may draw the majority of their visitors from a much smaller catchment (e.g. Thames Basin Heaths SPA, which draws 96% of its visitors from within 5 km<sup>8</sup>) or a much larger one (e.g. the New Forest SAC, for which 55% of visitors are holidaymakers rather than locals<sup>9</sup>).
- 3.3.5 We have managed to obtain some visitor survey and recreational catchment data relating to both European sites considered within the scope of this assessment - Epping Forest SAC and the Lee Valley SPA/Ramsar. Since Hackney falls within the recreational catchment of both sites it was considered that adverse effects as a result of increased recreational pressure associated with the increased resident population could be not described as inherently unlikely and required consideration at Appropriate Assessment.

### 3.4 Atmospheric pollution

- 3.4.1 Current levels of understanding of air quality effects on semi-natural habitats are not adequate to allow a rigorous assessment of the likelihood of significant effects on the integrity of key European sites.

**Table 3. Main sources and effects of air pollutants on habitats and species**

Pollutant	Source	Effects on habitats and species
Acid deposition	SO <sub>2</sub> , NO <sub>x</sub> and ammonia all contribute to acid deposition. Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased N emissions may cancel out any gains produced by reduced S levels.	Can affect habitats and species through both wet (acid rain) and dry deposition. Some sites will be more at risk than others depending on soil type, bed rock geology, weathering rate and buffering capacity.
Ammonia (NH <sub>3</sub> )	Ammonia is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but levels have increased considerably with expansion in numbers of agricultural livestock. Ammonia reacts with acid pollutants such as the products of SO <sub>2</sub> and NO <sub>x</sub> emissions to produce fine ammonium (NH <sub>4</sub> <sup>+</sup> )- containing	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH <sub>3</sub> is rapidly deposited, some of the most acute problems of NH <sub>3</sub> deposition are for small relict nature reserves located in intensive agricultural landscapes.

<sup>12</sup> West, A.D., et al. 2002. Predicting the impacts of disturbance on shorebird mortality using a behaviour-based model. *Biological Conservation* 106:3, 319-328

<sup>8</sup> Liley, D. et al. 2005. Visitor access patterns on the Thames Basin Heaths. *English Nature Research Report*, English Nature, Peterborough

<sup>9</sup> Forestry Commission. 2005. New Forest Visitor Survey.

Pollutant	Source	Effects on habitats and species
	aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.)	
Nitrogen oxides NO <sub>x</sub>	Nitrogen oxides are mostly produced in combustion processes. About one quarter of the UK's emissions are from power stations, one-half from motor vehicles, and the rest from other industrial and domestic combustion processes.	Deposition of nitrogen compounds (nitrates (NO <sub>3</sub> ), nitrogen dioxide (NO <sub>2</sub> ) and nitric acid (HNO <sub>3</sub> )) can lead to both soil and freshwater acidification. In addition, NO <sub>x</sub> can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.
Nitrogen (N) deposition	The pollutants that contribute to nitrogen deposition derive mainly from NO <sub>x</sub> and NH <sub>3</sub> emissions. These pollutants cause acidification (see also acid deposition) as well as eutrophication.	Species-rich plant communities with relatively high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication, due to its promotion of competitive and invasive species which can respond readily to elevated levels of N. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.
Ozone (O <sub>3</sub> )	A secondary pollutant generated by photochemical reactions from NO <sub>x</sub> and volatile organic compounds (VOCs). These are mainly released by the combustion of fossil fuels. The increase in combustion of fossil fuels in the UK has led to a large increase in background ozone concentration, leading to an increased number of days when levels across the region are above 40ppb. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	Concentrations of O <sub>3</sub> above 40 ppb can be toxic to humans and wildlife, and can affect buildings. Increased ozone concentrations may lead to a reduction in growth of agricultural crops, decreased forest production and altered species composition in semi-natural plant communities.
Sulphur Dioxide SO <sub>2</sub>	Main sources of SO <sub>2</sub> emissions are electricity generation, industry and domestic fuel combustion. May also arise from shipping and increased atmospheric concentrations in busy ports. Total SO <sub>2</sub> emissions have decreased substantially in the UK since the 1980s.	Wet and dry deposition of SO <sub>2</sub> acidifies soils and freshwater, and alters the species composition of plant and associated animal communities. The significance of impacts depends on levels of deposition and the buffering capacity of soils.

3.4.2 The main pollutants of concern for European sites are oxides of nitrogen (NO<sub>x</sub>), ammonia (NH<sub>3</sub>) and sulphur dioxide (SO<sub>2</sub>). NO<sub>x</sub> can have a directly toxic effect upon vegetation. In addition, greater NO<sub>x</sub> or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.

3.4.3 Sulphur dioxide emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions. As such, it is unlikely that material increases in SO<sub>2</sub> or NH<sub>3</sub> emissions will be associated with Local Development Frameworks. NO<sub>x</sub> emissions, however, are dominated by the output of vehicle exhausts (more than half of all emissions). Within a 'typical' housing development, by far the largest contribution to NO<sub>x</sub> (92%) will be made by the associated road traffic. Other

sources, although relevant, are of minor importance (8%) in comparison<sup>13</sup>. Emissions of NO<sub>x</sub> could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the LDF.

3.4.4 According to the World Health Organisation, the critical NO<sub>x</sub> concentration (critical threshold) for the protection of vegetation is 30 µgm<sup>-3</sup>; the threshold for sulphur dioxide is 20 µgm<sup>-3</sup>. In addition, ecological studies have determined 'critical loads'<sup>14</sup> of atmospheric nitrogen deposition (that is, NO<sub>x</sub> combined with ammonia NH<sub>3</sub>).

3.4.5 The National Expert Group on Transboundary Air Pollution (2001)<sup>15</sup> concluded that:

- In 1997, critical loads for acidification were exceeded in 71% of UK ecosystems. This was expected to decline to 47% by 2010.
- Reductions in SO<sub>2</sub> concentrations over the last three decades have virtually eliminated the direct impact of sulphur on vegetation.
- By 2010, deposited nitrogen was expected to be the major contributor to acidification, replacing the reductions in SO<sub>2</sub>.
- Current nitrogen deposition is probably already changing species composition in many nutrient-poor habitats, and these changes may not readily be reversed.
- The effects of nitrogen deposition are likely to remain significant beyond 2010.
- Current ozone concentrations threaten crops and forest production nationally. The effects of ozone deposition are likely to remain significant beyond 2010.
- Reduced inputs of acidity and nitrogen from the atmosphere may provide the conditions in which chemical and biological recovery from previous air pollution impacts can begin, but the timescales of these processes are very long relative to the timescales of reductions in emissions.

3.4.6 Grice et al<sup>16,17</sup> do however suggest that air quality in the UK will improve significantly over the next 15 years due primarily to reduced emissions from road transport and power stations.

<sup>13</sup> Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. <http://www.airquality.co.uk/archive/index.php>

<sup>14</sup> The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur

<sup>15</sup> National Expert Group on Transboundary Air Pollution (2001) Transboundary Air Pollution: Acidification, Eutrophication and Ground-Level Ozone in the UK.

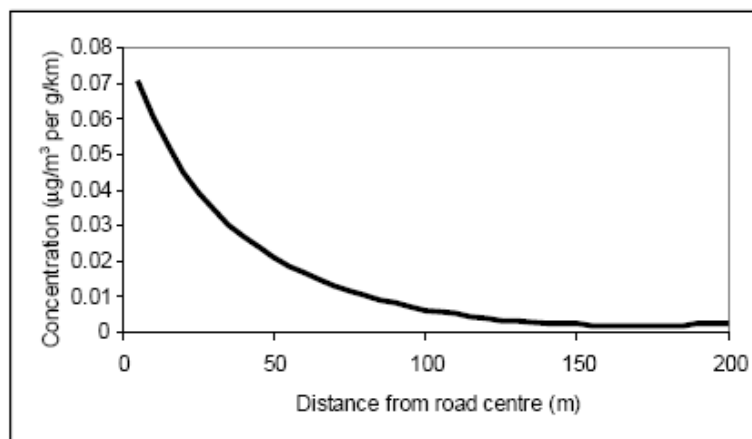
<sup>16</sup> Grice, S., T. Bush, J. Stedman, K. Vincent, A. Kent, J. Targa and M. Hobson (2006) Baseline Projections of Air Quality in the UK for the 2006 Review of the Air Quality Strategy, report to the Department for Environment, Food and Rural Affairs, Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland.

<sup>17</sup> Grice, S., J. Stedman, T. Murrells and M. Hobson (2007) Updated Projections of Air Quality in the UK for Base Case and Additional Measures for the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007, report to the Department for Environment, Food and Rural Affairs, Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland.

### Local air pollution

- 3.4.7 According to the Department of Transport's Transport Analysis Guidance, "*Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant*"<sup>18</sup>.

*Figure 2. Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)*



- 3.4.8 This is therefore the distance that has been used throughout this HRA in order to determine whether European sites are likely to be significantly affected by development under the Core Strategy. Given that both the Lee Valley SPA/Ramsar and Epping Forest SAC lie within 200m of major roads that may be regularly used by vehicle journeys arising from Hackney as a result of the increased population, it was concluded that air quality should be included within the scope of this assessment.

### Diffuse air pollution

- 3.4.9 In addition to the contribution to local air quality issues, development can also contribute cumulatively to an overall deterioration in background air quality across an entire region. In July 2006, when this issue was raised by Runnymede Borough Council in the South East, Natural England advised that their Local Development Framework 'can only be concerned with locally emitted and short range locally acting pollutants' as this is the only scale which falls within a local authority remit. It is understood that this guidance was not intended to set a precedent, but it inevitably does so since (as far as we are aware) it is the only formal guidance that has been issued to a Local Authority from any Natural England office on this issue.
- 3.4.10 In the light of this and our own knowledge and experience, it is considered reasonable to conclude that diffuse pan-authority air quality impacts are the responsibility of Regional Spatial Strategies, both since they relate to the overall quantum of development within a region (over which individual boroughs have little control), and since this issue is best addressed at the highest pan-authority level. Diffuse air quality issues will not therefore be considered further within this HRA.

<sup>18</sup> [www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf](http://www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf)

### 3.5 Water resources and quality

- 3.5.1 There is a risk that increased abstraction to meet the needs of the increased population of Hackney will (when considered 'in combination' with the increased population throughout East London and parts of Hertfordshire over the plan period) lower water levels within the River Lee that are designated as or which feed the European site, thereby reducing freshwater inputs. This could potentially lead to increased sedimentation of the river channel due to reduced flows and a reduction in the freshwater available to SPA birds for drinking, feeding, roosting, loafing and bathing<sup>19</sup>.
- 3.5.2 Since the River Lee and its associated reservoirs form a major component of the water resource for northeast London, it was concluded that adverse effects from the Core Strategy on European sites as a result of increased abstraction from sensitive surface water sources could not be described as inherently unlikely.
- 3.5.3 In contrast, since wastewater for Hackney currently is processed by Beckton Sewage Treatment Works and discharged into the Thames, increases in volumes of wastewater that could result from policies promoting housing and employment development are not likely to have a significant effect on the Lee Valley SPA and Ramsar site.

### 3.6 Impacts on supporting habitat

- 3.6.1 Some European sites are designated for highly mobile species (such as bats and birds) that are not physically restricted to the boundaries of the European site. In those circumstances some areas of habitat outside the boundaries of the European site can be of fundamental importance for the overall survival of the population for which the European site was designated. As such, significant adverse impacts on that supporting habitat can result in an indirect adverse effect on the interest features of the European site. In the London Borough of Hackney, this is mainly associated with the Stoke Newington Reservoirs, which are known to provide an important area of supporting habitat for the gadwall and shoveler populations for which the SPA was designated (specifically as supporting habitat for Walthamstow Reservoirs SSSI).
- 3.6.2 The Woodberry Down estate was identified in the Preferred Options Core Strategy as being a location for major regeneration including an increase in the density of residents. The estate lies immediately north of Stoke Newington Reservoirs. However, a detailed project-level Habitat Regulations screening assessment was carried out for the Woodberry Down regeneration project<sup>20</sup>, which specifically considered the issue of increased recreational pressure on the Reservoirs and the possible displacement of gadwall and shoveler. The report concluded that due to the avoidance measures incorporated into the design of the new estate footprint, significant adverse effects on the Lee Valley SPA were unlikely as a result of

<sup>19</sup> Ravenscroft, N.O.M. and Beardal, C.H. 2003. The importance of freshwater flows over estuarine mudflats for wintering waders and wildfowl. *Biological Conservation*, 113:1, 89-97

<sup>20</sup> Scott Wilson. 2007. Regeneration of the Woodberry Down Estate, London Borough of Hackney. Habitat Regulations Assessment: Likely Significant Effect Test. Scott Wilson, Basingstoke

displacement of wildfowl from the Reservoirs. This view was accepted by Natural England.

- 3.6.3 As such, impacts on supporting habitat are screened out of further consideration in the Appropriate Assessment for the Core Strategy.

### 3.7 Summary of screening report

- 3.7.1 The February 2008 screening assessment concluded that two European sites needed to be considered within the scope of the Appropriate Assessment:

Epping Forest SAC	Increase in recreational pressure and possible reduction in air quality
Lee Valley SPA & Ramsar site	Increase in recreational pressure, water resource issues and possible reduction in air quality

- 3.7.2 Although three further sites (Wormley Hoddesdonpark Woods SAC, Richmond Park SAC and Wimbledon Common SAC) were covered by the screening appraisal, it was considered that impacts on these sites could be screened out since there was no mechanism for the Core Strategy to lead to an adverse effect.

## 4 LEE VALLEY SPA AND RAMSAR

### 4.1 Introduction

- 4.1.1 The Lee Valley comprises a series of embanked water supply reservoirs, sewage treatment lagoons and former gravel pits along approximately 24 km of the valley. These waterbodies support internationally important numbers of wintering gadwall and shoveler, while the reedbeds support a small but internationally important population of bittern.
- 4.1.2 The Lee Valley SPA/Ramsar consists of four Sites of Special Scientific Interest, of which Turnford and Cheshunt Pits SSSI, Rye Meads SSSI and Amwell Quarry SSSI all lie within Broxbourne borough on the Hertfordshire/Essex border. Walthamstow Reservoirs SSSI lies within London Borough of Waltham Forest. The Special Protection Area is managed by the Lee Valley Regional Park Authority and by Thames Water.

### 4.2 Turnford and Cheshunt Pits SSSI

- 4.2.1 The Turnford and Cheshunt Pits SSSI includes ten former gravel pits in the Lee Valley Regional Park. The pits range in age from North Metropolitan Pit, which is among the oldest pits in the Lee Valley to Hooks Marsh Lake, which was not excavated until the 1970s, and cover a span of over 40 years. Because of the profusion of pits and islands, several of the pits have extensive shorelines; North Metropolitan Pit alone having an estimated shoreline of about 4 miles (7.2km). Also included in the site are all the associated areas of marsh, grassland, ruderal herbs, scrub and woodland; part of the Small River Lee; and a further water body, Hall Marsh Scrape, which was constructed specifically for use by waterfowl.
- 4.2.2 The pits are of national importance for wintering gadwall *Anas strepera*; (regularly supporting some 2.9% of the UK population) and for wintering shoveler *Anas glypeata* (about 1.3% of the UK population). The site is of regional importance for wintering Coot *Fulica atra* and is locally important for wintering snipe *Gallinago gallinago* and bittern *Botaurus stellaris*.

### 4.3 Rye Meads SSSI

- 4.3.1 The Rye Meads meadows are the last substantial remnants of ancient flood-meadows on the rich alluvial soils of the Lee Valley. The site supports one of the largest areas of tall fen vegetation in the county and provides a valuable habitat for locally uncommon plants and for birds. This habitat has been reduced in extent significantly, both locally and nationally, by drainage and agricultural improvements, and it is now a rare habitat in Hertfordshire.

- 4.3.2 The site is important for breeding and wintering birds. In hard weather the lagoons support concentrations of Tufted Duck *Aythya fuligula*, Shoveler *Anas clypeata* and Gadwall *Anas strepera* of national importance. The tall fen areas are used by wintering birds, notably Snipe *Gallinago gallinago*, Water Rail *Rallus aquaticus*, Bittern *Botaurus stellaris* and Bearded Tit *Panurus biamicus*, the last three species occurring here at their highest concentrations in the London basin.

#### 4.4 Amwell Quarry SSSI

- 4.4.1 Amwell Quarry is a former gravel pit site in the Lee Valley near Ware, which supports nationally important numbers of wintering wildfowl, along with outstanding assemblages of breeding birds and of dragonflies and damselflies. The site includes two waterbodies, Great Hardmead Lake and Hollycross Lake, which were excavated between 1973 and 1990, and a variety of associated wetland, grassland and woodland habitats. Amwell Quarry is of national importance for wintering gadwall *Anas strepera* for wintering shoveler *Anas clypeata*. The site also regularly supports individual wintering bittern *Botaurus stellaris*. The lakes and their marginal habitats also support an outstanding assemblage of breeding birds.
- 4.4.2 The lagoons support the region's largest colony of Common Tern *Sterna hirundo* which breed very successfully on floating rafts. The lagoon banks hold a nationally important breeding concentration of Tufted Ducks and duckling survival is high compared to other sites in the Lee Valley.

#### 4.5 Walthamstow Reservoirs SSSI

- 4.5.1 The Walthamstow Reservoirs contain one of the country's major heronries and a particularly large concentration of breeding wildfowl. They are also an important gathering area for moulting tufted duck and in winter attract nationally significant populations of wildfowl and other wetland birds. They were mainly constructed in the latter half of the nineteenth century and comprise ten relatively small, shallow, water storage basins. Several of the reservoirs are fringed by sloping earth banks and these, together with the presence of wooded islands, form distinctive habitat features. The reservoirs serve an active part in Thames Water's strategic water supply infrastructure.
- 4.5.2 During the winter months the reservoirs are a favoured area for a variety of wetland birds and in particular, large numbers of wildfowl. The populations of shoveler and tufted duck consistently reach levels of national significance, while great crested grebe, pochard and coot also occur in important numbers. The shores of the reservoirs and the banks of the Coppermill Stream are of added interest for fringes of fenland vegetation containing species that are uncommon in Greater London.

## 4.6 Features of European Interest

4.6.1 The site was designated as being of European importance for the following interest features:

- Bittern *Botaurus stellaris*, 6 individuals representing at least 6.0% of the wintering population in Great Britain (5 year peak mean, 1992/3-1995/6)
- Gadwall *Anas strepera*, 515 individuals representing at least 1.7% of the wintering Northwestern Europe population (5 year peak mean 1991/2 - 1995/6)
- Shoveler *Anas clypeata*, 748 individuals representing at least 1.9% of the wintering Northwestern/Central Europe population (5 year peak mean 1991/2 - 1995/6)

4.6.2 The birds that winter on many Special Protection Areas/Ramsar sites (the Lee Valley being no exception) are not confined to the boundaries of the SPA, but in fact utilise areas of 'supporting habitat' located outside the boundaries and sometimes many kilometres distant.

## 4.7 Features of International Interest: Ramsar Criteria

4.7.1 The Lee Valley Ramsar site qualifies on two of the nine Ramsar criteria.

**Table 6. Criteria under which the Lee Valley qualifies as a Ramsar site**

Ramsar criterion	Description of Criterion	Thames Estuary & Marshes
2	A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.	The site supports the nationally scarce plant species whorled water-milfoil <i>Myriophyllum verticillatum</i> and the rare or vulnerable invertebrate <i>Micronecta minutissima</i> (a water-boatman).
6	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	Species with peak counts in spring/autumn: <ul style="list-style-type: none"> <li>• Shoveler <i>Anas clypeata</i>, 287 individuals, representing an average of 1.9% of the GB population (5 year peak mean 1998/9-2002/3)</li> </ul> Species with peak counts in winter: <ul style="list-style-type: none"> <li>• Gadwall <i>Anas strepera</i>, 445 individuals, representing an average of 2.6% of the GB population (5 year peak mean 1998/9- 2002/3)</li> </ul>

## 4.8 Condition Assessment

4.8.1 During the most recent condition assessment process, Turnford and Cheshunt Pits SSSI and Amwell Quarry SSSI were judged to be in 100% favourable condition. Rye Meads SSSI was judged to be 100% favourable or unfavourable recovering. It

can be seen from Table 7 that the SPA exceeds both the critical threshold for NO<sub>x</sub> and its critical nitrogen load for the key habitat for which data are available and which the SPA birds are likely to use. It can also be seen that sulphur dioxide does not currently appear to be a problem for this site.

Table 7. Critical nitrogen loads, actual rates of nitrogen deposition, NO<sub>x</sub> concentrations<sup>21</sup> and sulphur dioxide concentrations for the Lee Valley SPA. Red shading indicates exceedance of thresholds.

Site	Grid reference	Most nitrogen sensitive habitat	Minimum critical loads (Kg N/ha/yr) <sup>22</sup>	Actual nitrogen deposition <sup>23</sup> (Kg N/ha/yr)	Actual NO <sub>x</sub> concentration (µgm <sup>-3</sup> )	Actual SO <sub>2</sub> concentration (µgm <sup>-3</sup> )
Lee Valley SPA	TQ795585	Grazing Marsh <sup>24</sup>	20	24.6	33.5	8.1

## 4.9 Key Environmental Conditions

4.9.1 The following key environmental conditions were identified for this site:

- Minimal disturbance
- Maintenance of grazing / mowing regimes
- Consistent freshwater flows and volumes
- Consistent water quality
- Good air quality
- Unpolluted water
- Absence of nutrient enrichment
- Absence of non-native species
- The maintenance of adequate supporting habitat outside the boundaries of the European site

4.9.2 It is understood that most of the off-site supporting habitat for gadwall and shoveler relates to nearby waterbodies (i.e. within approximately 2 km). It is understood that bittern does not significantly utilise habitat outside the boundaries of the SPA/Ramsar site.

## 4.10 Potential Effects of the Plan

4.10.1 Most of the SPA/Ramsar site lies too far from Hackney (approximately 15km at the closest) to be significantly affected (either directly or indirectly) by development within the Borough. However, Walthamstow Reservoirs SSSI lies immediately adjacent to the Borough boundary and is also used as a water supply resource for east London. This assessment therefore focuses on the impacts that may occur on this component of the SPA.

<sup>21</sup> Calculated as NO<sub>2</sub>

<sup>22</sup> APIS provides a critical load range – on a precautionary basis, this assessment uses the lowest figure in that range

<sup>23</sup> To a resolution of 5 km

<sup>24</sup> The closest habitat for which APIS has critical loads are low and medium altitude hay meadows

## Recreation

- 4.10.2 Human activity can affect birds either directly (e.g. through causing them to flee) or indirectly (e.g. through damaging their habitat). The most obvious direct effect is that of immediate mortality such as death by shooting, but human activity can also lead to behavioural changes (e.g. alterations in feeding behaviour, avoidance of certain areas etc.) and physiological changes (e.g. an increase in heart rate) that, although less noticeable, may ultimately result in major population-level effects by altering the balance between immigration/birth and emigration/death.<sup>25</sup>
- 4.10.3 Recreational activity will often result in a flight response (flying, diving, swimming or running) from the animal that is being disturbed. This carries an energetic cost that requires a greater food intake. Relatively little detailed research has been conducted concerning the energetic cost to wildlife of disturbance, but such evidence as exists indicates a significant negative effect.
- 4.10.4 Few studies could be sourced that identified sensitivity of gadwall to recreational disturbance. The potential for disturbance may be less in winter than in summer, in that there are often a smaller number of recreational users. However, winter activity can still cause important disturbance, especially as birds are particularly vulnerable at this time of year due to food shortages. Several empirical studies have, through correlative analysis, demonstrated that out-of-season recreational activity can result in quantifiable disturbance:
- Tuite et al<sup>26</sup> found that during periods of high recreational activity, bird numbers at Llangorse Lake decreased by 30% as the morning progressed, matching the increase in recreational activity towards midday. During periods of low recreational activity, however, no change in numbers was observed as the morning progressed. In addition, all species were found to spend less time in their 'preferred zones' (the areas of the lake used most in the absence of recreational activity) as recreational intensity increased.
  - Underhill et al<sup>27</sup> counted waterfowl and all disturbance events on 54 water bodies within the South West London Water bodies Special Protection Area and clearly correlated disturbance with a decrease in bird numbers at weekends in smaller sites and with the movement of birds within larger sites from disturbed to less disturbed areas.
  - Evans & Warrington<sup>28</sup> found that on Sundays total water bird numbers (including shoveler and gadwall) were 19% higher on Stocker's Lake LNR in Hertfordshire, and attributed this to observed greater recreational activity on surrounding water bodies at weekends relative to week days.

<sup>25</sup> Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.

<sup>26</sup> Tuite, C. H., Owen, M. & Paynter, D. 1983. Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. *Wildfowl* 34: 48-63

<sup>27</sup> Underhill, M.C. et al. 1993. *Use of Waterbodies in South West London by Waterfowl. An Investigation of the Factors Affecting Distribution, Abundance and Community Structure.* Report to Thames Water Utilities Ltd. and English Nature. Wetlands Advisory Service, Slimbridge

<sup>28</sup> Evans, D.M. & Warrington, S. 1997. The effects of recreational disturbance on wintering waterbirds on a mature gravel pitlake near London. *International Journal of Environmental Studies* 53: 167-182

However, recreational activity was not quantified in detail, nor were individual recreational activities evaluated separately.

- Tuite *et al*<sup>29</sup> used a large (379 site), long-term (10-year) dataset (September – March species counts) to correlate seasonal changes in wildfowl abundance with the presence of various recreational activities. They found that shoveler was one of the most sensitive species to disturbance. The greatest impact on winter wildfowl numbers was associated with sailing/windsurfing and rowing.

4.10.5 Disturbing activities are on a continuum. The most disturbing activities are likely to be those that involve irregular, infrequent, unpredictable loud noise events, movement or vibration of long duration. Birds are least likely to be disturbed by activities that involve regular, frequent, predictable, quiet patterns of sound or movement or minimal vibration. The further any activity is from the birds, the less likely it is to result in disturbance.

4.10.6 The distance at which a species takes flight when approached by a disturbing stimulus is known as the ‘tolerance distance’ (also called the ‘escape flight distance’) and differs between species to the same stimulus and within a species to different stimuli. No data could be sourced on the tolerance distances of gadwall. However, distances for shoveler have been recorded. These are given in Table 7, which compiles ‘tolerance distances’ from across the literature.

**Table 7. Tolerance distances of 21 water bird species to various forms of recreational disturbance, as described in the literature. All distances are in metres. Single figures are mean distances; when means are not published, ranges are given. <sup>1</sup> Tydeman (1978), <sup>2</sup> Keller (1989), <sup>3</sup> Van der Meer (1985), <sup>4</sup> Wolff *et al* (1982), <sup>5</sup> Blankestijn *et al* (1986), <sup>6</sup> Cook (1980).<sup>30</sup>**

Species	Type of disturbance		
	Rowing boats/kayak	Sailing boats	Walking
Little grebe		60 – 100 <sup>1</sup>	
Great crested grebe	50 – 100 <sup>2</sup>	20 – 400 <sup>1</sup>	
Mute swan		3 – 30 <sup>1</sup>	
Teal		0 – 400 <sup>1</sup>	

<sup>29</sup> Tuite, C.H., Hanson, P.R. & Owen, M. 1984. Some ecological factors affecting winter wildfowl distribution on inland waters in England and Wales and the influence of water-based recreation. *Journal of Applied Ecology* 21: 41-62

<sup>30</sup> Tydeman, C.F. 1978. *Gravel Pits as conservation areas for breeding bird communities*. PhD thesis. Bedford College

Keller, V. 1989. Variations in the response of Great Crested Grebes *Podiceps cristatus* to human disturbance - a sign of adaptation? *Biological Conservation* 49:31-45

Van der Meer, J. 1985. *De verstoring van vogels op de slikken van de Oosterschelde*. Report 85.09 Deltadienst Milieu en Inrichting, Middelburg. 37 pp.

Wolf, W.J., Reijnders, P.J.H. & Smit, C.J. 1982. The effects of recreation on the Wadden Sea ecosystem: many questions but few answers. In: G. Luck & H. Michaelis (Eds.), *Schriftenreihe M.E.L.F., Reihe A: Agnew. Wissensch* 275: 85-107

Blankestijn, S. *et al*. 1986. *Seizoensverbreding in de recreatie en verstoring van Wulp en Scholkester op hoogwatervluchplaatsen op Terschelling*. Report Projectgroep Wadden, L.H. Wageningen. 261pp.

Cooke, A.S. 1980. Observation on how close certain passerine species will tolerate an approaching human in rural and suburban areas. *Biological Conservation* 18: 85-88

Species	Type of disturbance		
	Rowing boats/kayak	Sailing boats	Walking
Mallard		10 – 100 <sup>1</sup>	
Shoveler		200 – 400 <sup>1</sup>	
Pochard		60 – 400 <sup>1</sup>	
Tufted duck		60 – 400 <sup>1</sup>	
Goldeneye		100 – 400 <sup>1</sup>	
Smew		0 – 400 <sup>1</sup>	
Moorhen		100 – 400 <sup>1</sup>	
Coot		5 – 50 <sup>1</sup>	
Curlew			211 <sup>3</sup> ; 339 <sup>4</sup> ; 213 <sup>5</sup>
Shelduck			148 <sup>3</sup> ; 250 <sup>4</sup>
Grey plover			124 <sup>3</sup>
Ringed plover			121 <sup>3</sup>
Bar-tailed godwit			107 <sup>3</sup> ; 219 <sup>4</sup>
Brent goose			105 <sup>3</sup>
Oystercatcher			85 <sup>3</sup> ; 136 <sup>4</sup> ; 82 <sup>5</sup>
Dunlin			71 <sup>3</sup> ; 163 <sup>2</sup>
Duncock			9.2 <sup>6</sup>

4.10.7 Although gadwall and shoveler are considered to be sensitive to increased disturbance, this sensitivity is always relative to the levels of disturbance to which the birds in a given location are adapted. The birds that use the Lee Valley SPA and Ramsar site are already within an essentially urban situation with high-rise housing surrounding the site, and a busy road (the A508) passing through the centre of the designated area.

4.10.8 The only information we have been able to obtain concerning recreational catchments for the Lee Valley Regional Park are the following:

- A statement that “*The Lee Valley Regional Park is a resource for everyone who lives and works in the London, Hertfordshire and Essex region. It also attracts visitors from around the UK and even internationally*”<sup>31</sup>; and
- The Lee Valley Regional Park Authority Visitor Tracking Study for the year April 2006 to March 2007, as reported in the Recreation Technical Report produced for the East of England Regional Spatial Strategy<sup>32</sup>, shows that 60% of visitors to the National Park were ‘local’. Although ‘local’ was not specifically defined it would certainly include Hackney within the recreational catchment for the Park.

<sup>31</sup> Lee Valley Regional Park Authority. 2007. Park Development Framework – Statement of Community Involvement

<sup>32</sup> RPS Consultants. 2007. Recreation Technical Report for the East of England Regional Spatial Strategy. Unpublished report

### Impacts of the Core Strategy

- 4.10.9 The Lee Valley Regional Park is already extensively used for recreational activity. Inevitably, given the major draw that the Park represents, the additional 10,850 new homes that the Council are required to deliver over the plan period (the quantum, location and type of which is set by the policies listed in paragraph 2.7.2) will add to recreational pressures. This should not be considered in isolation, but must be set within the context of over 305,000 new dwellings in Greater London to be delivered under the London Plan, including 107,730 within the six boroughs neighbouring Hackney. While the Park has detailed management plans to control recreation, it is inevitable that these plans will be placed under greater pressure (and potentially require greater funds to implement) if the number of recreational users increases considerably.
- 4.10.10 *However*, most of the Regional Park lies outside the boundaries of the SPA. Specifically, recreational access to Walthamstow Reservoirs SSSI is currently restricted and controlled on a permit basis (which is not currently anticipated to change), such that the future exposure of the Reservoirs to human activity is very limited, unlike the rest of the Regional Park. As such, it is considered that there will be no adverse effect on the interest features of the SPA as a result of recreational pressure associated with the increased population in Hackney and no mitigation is therefore required.

### Atmospheric Pollution

- 4.10.11 Current levels of understanding of air quality effects on semi-natural habitats or usage of particular major roads by residents of particular districts are not adequate to allow a rigorous assessment of the likelihood of significant effects on the integrity of key European sites. While current trend predictions based upon the introduction of improvements in vehicle emission technology (Grice et al<sup>33 34</sup>) do suggest that air quality in the UK will improve significantly over the next 15 years, these models are based on national averages and do not take account of the latest district/borough levels and locations of housing growth. As such, the national trend does not mean that there will necessarily be improvements at a local scale.
- 4.10.12 The A503 (Forest Road) passes through the SPA, separating the two components of Walthamstow Reservoirs SSSI and can expect to receive higher volumes of traffic as a result of 10,850 new homes within Hackney (the quantum, location and type of which is set by the policies listed in paragraph 2.7.2) when considered cumulatively with the 107,730 within the six boroughs neighbouring Hackney that will be delivered over the same period. Therefore, increasing nitrogen deposition due to increased road traffic associated can be expected to contribute to

<sup>33</sup> Grice, S., T. Bush, J. Stedman, K. Vincent, A. Kent, J. Targa and M. Hobson (2006) Baseline Projections of Air Quality in the UK for the 2006 Review of the Air Quality Strategy, report to the Department for Environment, Food and Rural Affairs, Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland.

<sup>34</sup> Grice, S., J. Stedman, T. Murrells and M. Hobson (2007) Updated Projections of Air Quality in the UK for Base Case and Additional Measures for the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007, report to the Department for Environment, Food and Rural Affairs, Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland.

deteriorating air quality in a European site that is already exceeding the predicted damage thresholds.

4.10.13 However, Policy 34 (Promoting Sustainable Transport) seeks to minimise the contribution of new development to deteriorating air quality as much as possible:

4.10.14 *'The Council is committed to prioritising sustainable transport, walking and cycling over private car use, and providing safe and convenient access to travel. The need to travel will be reduced through the efficient spatial arrangement of activities and land use throughout the borough. Significant trip generating development should be located in areas with high PTAL scores, such as Town Centres and Growth Areas. Travel plans will be required for major development. To minimise noise and disturbance, operations that require heavy movement of goods should be located close to the higher level road network.'*

4.10.15 *Use of sustainable modes of transport will be promoted over other forms of transport by protecting designated strategic transport infrastructure (outlined on the proposals map) and promoting greater pedestrian and cycle priority for movement within the borough and beyond; including the provision of new on and off-street cycle routes, cycle parking, joining up of open spaces and general improvements to the public realm. Car Parking will be controlled in line with national and regional policy and priority given to reduce vehicle use of residential streets'.*

4.10.16 Policy 6 (Transport) adds:

4.10.17 *'The Council will encourage patterns and forms of development that reduce the need particularly for car based travel and will ensure that walking and cycling routes and links through development are maintained and improved wherever possible'.*

4.10.18 The most that any local authority can reasonably be expected to do in such a situation is to introduce a strong policies that will discourage car use as much as possible and encourage use of sustainable transport. Since the London Borough of Hackney have done this, it is considered that these sustainable transport policies go as far as the local authority could be reasonably be expected in a Core Strategy towards minimising reliance on private car use. Additional mitigation is therefore not appropriate or required.

### **Water Resources**

4.10.19 The majority of London's public water supplies come from the rivers Thames and Lee (with approximately 80% of London's supply taken from the freshwater River Thames upstream of Teddington Weir). The remaining supplies are obtained from groundwater sources situation beneath the London Borough's from the confined chalk aquifer. Water supply for Thames Water's London Resource Zone (WRZ) does involve some abstraction from the Lee Valley Reservoirs (including Walthamstow Reservoirs) and treatment of water at Coppermills Water Treatment Works. In the London CAMS document, the Environment Agency identifies this river as 'over abstracted', which means that no further abstraction licences will be issued (and no further abstraction take place) within this catchment.

- 4.10.20 As such, with no other schemes in place, increased residential development with Hackney could lead to a need for damaging levels of abstraction from the Lee Valley SPA when considered cumulatively with all other new development in the London WRZ and further north in Hertfordshire that would ordinarily entail water supply from the Lee Valley. However, Thames Water are currently implementing a major water supply project in London which will involve abstraction and desalination of water from the tidal River Thames (the Thames Gateway Water Treatment Plant), such that damaging levels of abstraction from the River Lee to supply Waltham Forest (or other parts of London) should be avoidable.
- 4.10.21 However, there is some uncertainty over future security of supply until all these new developments are operational and it is clearly incumbent upon local authorities to assist in reducing the demand for water within their boroughs. The best way for Hackney Council to achieve this is to set minimum standards that developers must achieve in order to maximise sustainable water use. Policy 30 (Resource Efficiency) achieves this and states that residential developments will need to achieve '*...minimum ratings of Level 3 from 2010, Level 4 from 2013 and Level 6 from 2016*'.
- 4.10.22 It is therefore possible to conclude that the development is to be delivered under the Core Strategy would be unlikely to lead to adverse effects upon the Lee Valley SPA as a result of any contribution to unsustainable levels of abstraction.

## 4.11 Summary

- 4.11.1 Issues of recreational pressure, air quality and water resources have all been considered in relation to impacts of the Core Strategy on the Lee Valley SPA. Following Appropriate Assessment, and within the context of the policies already contained within the Core Strategy (some of which were amended following a previous round of HRA recommendations), it is possible to conclude that adverse effects on the Lee Valley SPA/Ramsar as a result of development within London Borough of Hackney under the Core Strategy is unlikely.

## 5 EPPING FOREST SAC

### 5.1 Introduction

5.1.1 Epping Forest SAC covers over 1,600 ha of Essex and the London Borough of Waltham Forest, with 70% of the site consisting of broadleaved deciduous woodland. Epping Forest is one of only a few remaining large-scale examples of ancient wood-pasture in lowland Britain and has retained habitats of high nature conservation value including ancient semi-natural woodland, old grassland plains and scattered wetland. The semi-natural woodland is particularly extensive, forming one of the largest coherent blocks in the country. Most is characterised by groves of over-mature pollards and these exemplify all three of the main wood-pasture types found in Britain: beech-oak, hornbeam-oak and mixed oak. The Forest plains are also a major feature and contain a variety of unimproved acid grasslands, which have become uncommon elsewhere in Essex and the London area. In addition, Epping Forest supports a nationally outstanding assemblage of invertebrates, a major amphibian interest and an exceptional breeding bird community.

### 5.2 Features of European Interest

5.2.1 The site is designated as an SAC for its:

- Atlantic acidophilous beech forest;
- Stag beetle, for which this is one of only four known outstanding localities in the UK. Stag beetles spend the majority of their life (up to 5 years) as larvae and during this period live in decaying wood at or below ground level. Adult beetles start to emerge in May and have generally mated and died by the end of August. It is not known whether adult stag beetles eat anything at all, although some entomologists have suggested that they may consume tree sap.
- European dry heaths; and
- Northern Atlantic wet heaths.

### 5.3 Condition Assessment

5.3.1 Deteriorating air quality and under-grazing are the two key pressures that currently affect the site. While recreational pressure is a considerable impact in some areas, these are localised; however, funding of management on the SAC is governed largely by donation and contributions from the Corporation of London and it is likely that the ability to adequately manage recreation on the SAC will come under increasing pressure as the population of northeast London, Epping Forest and east Hertfordshire increases.

5.3.2 It can be seen from Table 5 that the SAC exceeds both the critical threshold for NO<sub>x</sub> and its critical nitrogen load. It can also be seen that sulphur dioxide does not currently appear to be a problem for this site.

Table 5. Critical nitrogen loads, actual rates of nitrogen deposition, NO<sub>x</sub> concentrations<sup>35</sup> and sulphur dioxide concentrations for Epping Forest SAC. Red shading indicates exceedance of thresholds.

Site	Grid reference	Most nitrogen sensitive habitat	Minimum <sup>36</sup> critical loads (Kg N/ha/yr)	Actual nitrogen deposition <sup>37</sup> (Kg N/ha/yr)	Actual NO <sub>x</sub> concentration (µgm <sup>-3</sup> )	Actual SO <sub>2</sub> concentration (µgm <sup>-3</sup> )
Epping Forest SAC	TQ425985	Oak woodland	10	36.4	30	3.7

## 5.4 Key Environmental Conditions

5.4.1 The following key environmental conditions have been identified for the maintenance of the interest features of Epping Forest SAC:

- Controlled recreational activity;
- Good air quality;
- Maintenance of grazing regimes;
- Unpolluted water;
- Absence of nutrient enrichment;
- Absence of non-native species.

## 5.5 Potential Effects of the Plan

### Recreational disturbance

5.5.1 The Corporation of London have published the results of the Epping Forest Visitor Survey 2006<sup>38</sup>. The entirety of Hackney lies within 2 to 10 miles of Epping Forest SAC, with Wanstead Flats being the closest SAC component to the Borough. According to the Epping Forest visitor survey data approximately 29% of visitors to the site come from within this band. It is not possible to determine what proportion of Hackney's residents travel to visit Epping Forest for recreational purposes based upon these data.

5.5.2 In the absence of any other data the precautionary principle must be used and it must be concluded that, when the 10,850 homes to be delivered in Hackney (the quantum, location and type of which is set by the policies listed in paragraph 2.7.2) are considered in combination with the 22,700 houses to be delivered within those other districts/boroughs that surround the SAC<sup>39</sup> during the plan period, and an 'in combination' adverse effect upon the SAC could result in the absence of mitigation.

<sup>35</sup> Calculated as NO<sub>2</sub>

<sup>36</sup> APIS provides a critical load range – on a precautionary basis, this assessment uses the lowest figure in that range

<sup>37</sup> To a resolution of 5 km

<sup>38</sup> Corporation of London, 2006. Epping Forest Visitor Survey 2006 Analysis. Unpublished report

<sup>39</sup> Epping Forest District, Brentwood District and the London Boroughs of Waltham Forest and Redbridge

- 5.5.3 However, such measures are now contained within the Core Strategy and/or accepted by the Council and will be further detailed in subsequent SPD/DPDs. Advice from Natural England stemming from a previous draft of this HRA report, stated that Core Strategy should contain a strong policy to ensure that accessible, high quality green infrastructure network is delivered throughout the borough (See Appendix 2). It was stated that the provision of such a network in close proximity to people's homes should reduce the number of people feeling the need to travel to Epping Forest for recreational purposes.
- 5.5.4 Policy 27 (Open Space Network) addresses this point by stating '*All open and green spaces should be well-managed and enhanced to improve quality, capacity and public accessibility, to support a diverse and multi-functional network of open spaces. Where appropriate, new open spaces will be created which are publicly accessible and linked to other open spaces to enhance the borough's green infrastructure*'. In addition, the Council has confirmed that they will liaise with the Epping Forest Conservators and other stakeholders to assist in the long-term delivery of the Management Plan for Epping Forest SAC with regard to any changes to the management of the site that are necessary as a result of increased visitor numbers that would be associated in part with the increased population in the northeast London boroughs as a whole. This will be elaborated upon in future SPD/DPDs.
- 5.5.5 Coupled with the fact the Epping Forest Conservators have a detailed management strategy for the site, which includes careful management and licensing of many recreational activities, these measures would be sufficient to mitigate any adverse effect as a result of the increased population within the recreational catchment of the SAC.
- 5.5.6 As such, no additional measures are considered necessary.

#### **Atmospheric Pollution**

- 5.5.7 The Epping Forest SAC is considered to be sensitive to air pollution, having been assessed to be in unfavourable condition status partly due to air quality. Epping Forest SAC lies within 200 m of several major roads of key strategic importance for the north-east London/east Hertfordshire/west Essex area (M25, A1400, A104, A121 and A114 among others). Given the strategically important role of these roads, it is reasonable to conclude that a net increase of the population of Hackney as a result of 10,850 new homes and commercial floorspace<sup>40</sup> to be developed in the Borough (the quantum, location and type of which is set by the policies listed in paragraph 2.7.2) will also mean a net increase (when considered cumulatively with other developments in the area) in the numbers of people using these major roads.
- 5.5.8 However, Policy 34 (Promoting Sustainable Transport) seeks to minimise the contribution of new development to deteriorating air quality as much as possible:
- 5.5.9 '*The Council is committed to prioritising sustainable transport, walking and cycling over private car use, and providing safe and convenient access to travel. The need*

<sup>40</sup> Required to support the 26,000 additional jobs to be created in the Borough between 2001 and 2016

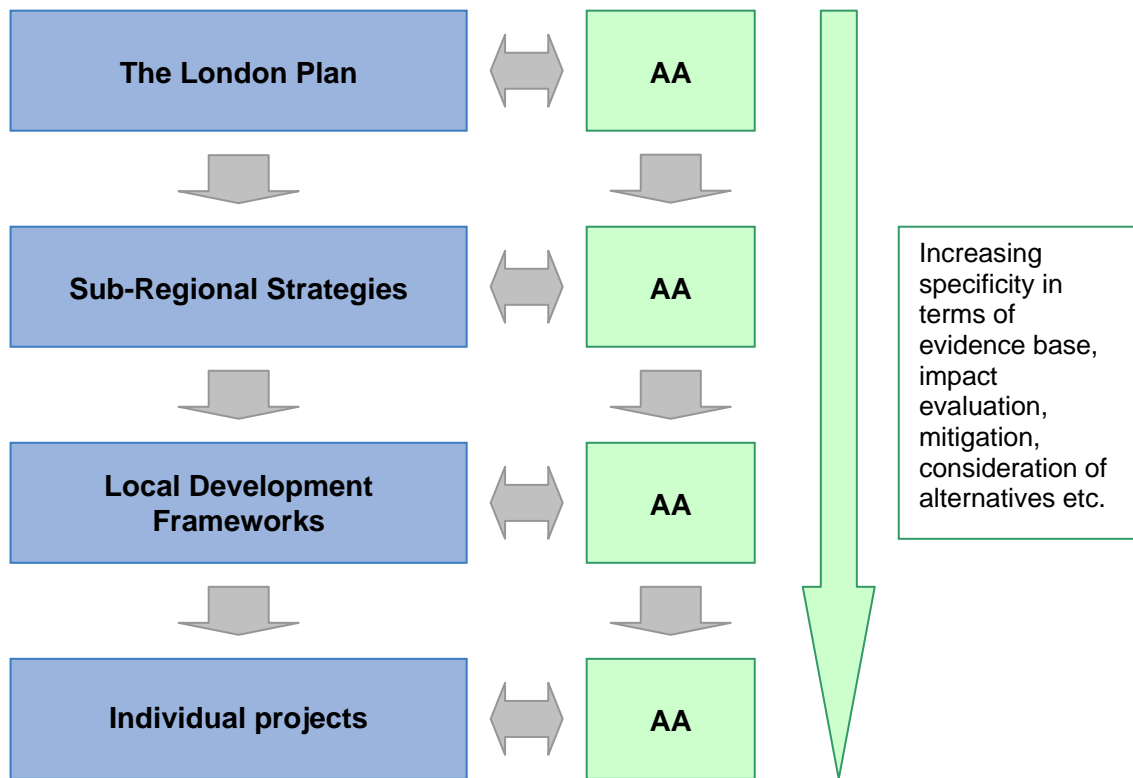
*to travel will be reduced through the efficient spatial arrangement of activities and land use throughout the borough. Significant trip generating development should be located in areas with high PTAL scores, such as Town Centres and Growth Areas. Travel plans will be required for major development. To minimise noise and disturbance, operations that require heavy movement of goods should be located close to the higher level road network.*

- 5.5.10 *Use of sustainable modes of transport will be promoted over other forms of transport by protecting designated strategic transport infrastructure (outlined on the proposals map) and promoting greater pedestrian and cycle priority for movement within the borough and beyond; including the provision of new on and off-street cycle routes, cycle parking, joining up of open spaces and general improvements to the public realm. Car Parking will be controlled in line with national and regional policy and priority given to reduce vehicle use of residential streets’.*
- 5.5.11 Policy 6 (Transport) adds that:
- 5.5.12 *‘The Council will encourage patterns and forms of development that reduce the need particularly for car based travel and will ensure that walking and cycling routes and links through development are maintained and improved wherever possible’.*
- 5.5.13 The aforementioned roads are major strategic routes and it will never be possible to deter people from using them, particularly since Epping Forest lies outside the control of the London Borough of Hackney. The most that any local authority can reasonably be expected to do in such a situation is to introduce a policy that will discourage car use as much as possible and encourage use of sustainable transport. Since the London Borough of Hackney have done this, it is considered that these sustainable transport policies go as far as the local authority could be reasonably be expected in a Core Strategy towards minimising reliance on private car use. Additional mitigation is therefore not appropriate or required.

## 5.6 Summary

- 5.6.1 Issues of recreational pressure and air quality have all been considered in relation to impacts of the Core Strategy on Epping Forest SAC and following consultation with Natural England it has been possible to conclude that an adequate policy mechanism is in place to ensure that development to be delivered under the Core Strategy will not lead to adverse effects on Epping Forest (when considered in conjunction with the increased populations of surrounding authorities).

## APPENDIX 1: 'TIERING' IN HABITAT REGULATIONS ASSESSMENT



## **APPENDIX 2: CORRESPONDENCE WITH NATURAL ENGLAND OVER THE DRAFT HRA**

Date: 21<sup>st</sup> May 2009  
Our ref: BO5/2-10/12



Helen Chen  
London Borough of Hackney  
Regeneration and Planning  
263 Mare Street  
London  
E8 3HT

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6<sup>th</sup> Floor  
Ashdown House,  
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SW1E 6DE

Tel: 0300 060 0139  
Fax: 0207 932 5811

Dear Helen,

**RE: Habitats Regulations Assessment of the Submission Stage Hackney Core Strategy**

Thank you for consulting Natural England on the HRA of the Submission Stage Core Strategy.

We have read the report and are satisfied with the methodology, content and assessment. We also concur with the recommendations for mitigation measures on page 34.

In addition to those set out in Section 6.3 we advise that an additional recommendation is included in the HRA Report. This should relate to the need for the Core Strategy to contain strong policies to ensure an accessible, high quality green infrastructure network is delivered throughout the borough.

The provision of such a network in close proximity to people's homes should reduce the number of people feeling the need to travel to Epping Forest for recreational purposes.

I hope you find our comments useful. If you have any further questions about this letter or require further information please do not hesitate to contact me.

Yours faithfully,

A handwritten signature in blue ink that reads "LWalduck".

Lisa Walduck  
Adviser – Planning and Green Infrastructure  
Natural England London Region

Direct Dial: 0300 060 0139  
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Mr John Hodson  
Interim Head of Policy & Strategy  
Regeneration and Planning Division  
2 Hillman Street  
2nd Floor  
Hackney  
E8 1FB

Our Ref: D118323  
Your Ref:  
Date: 5<sup>th</sup> February 2010

Dear Mr. Hodson

### **HRA of Pre Examination Changes to the Hackney Pre-Submission Core Strategy Draft**

The Hackney Pre-Submission Core Strategy Draft was subject to public consultation from June 2009 to August 2009. Following this consultation period a number of Pre-Examination changes have been made to the Core Strategy.

A comparison of the Proposed Submission Draft Core Strategy June 2009 and the Pre-Examination Changes in February 2010 by Scott Wilson indicates only minor changes between the two documents in relation to their effect on European sites. The process that has been undertaken is one whereby each element of the document has been assessed to consider whether there are any significant changes that require further Habitat Regulations Assessment/Appropriate Assessment (HRA/AA).

In the main, most changes relate to the presentation of the policies in the document or reflect an update to the LDF evidence base, such as greater specificity regarding residential unit numbers or employment floor space, rather than any fundamental changes in approach to the strategy and delivery mechanisms. With regards to employment, it is considered that the policy framework that has already been devised for the previous allocations with regards to preventing air quality impacts on European sites remains adequate. There has however been a change in housing allocations with an increase in the number of residential units to be delivered over the plan period. While this increase will slightly add to the recreational and other impacts on European sites due to housing to be delivered under the Core Strategy it is considered that the policy framework that has already been devised for the previous allocations with regards to preventing recreational impacts, coupled with the addition of greater open space provisions in areas of deficiency in 'Policy 12 – Health and Environment' will be adequate.

It is therefore considered that the findings of the detailed HRA undertaken for the Publication Draft by Scott Wilson would not be significantly affected by the changes to the Core Strategy and further detailed HRA work is not required. If any significant changes are made to the Core Strategy in the future, the HRA Report will need to be updated accordingly.

Yours Sincerely,  
for **Scott Wilson Ltd**

A handwritten signature in black ink that reads 'James Riley'.

**Dr James Riley** MIEEM  
Principal Ecologist  
Scott Wilson | Environment & Natural Resources

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