Redbridge Local Plan 2015-2030

Habitats Regulations Assessment

Stage 1 Screening Report

Prepared for Cundall

Kevin Honour MSc MCIEEM

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Unit 14 The Greenhouse Greencroft Industrial Park
Annfield Plain County Durham DH9 7XN

T: 01207 524859 F: 01207 524895 www.argusecology.co.uk

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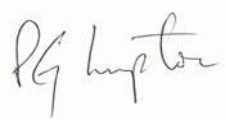
V3	Kevin Honour MSc MCIEEM	Sue Charlton BSc(Hons) MCIEEM	Paul Lupton MSc MCIEEM	DRAFT	23/02/2017
					

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Unit 14 The Greenhouse Greencroft Industrial Park
Annfield Plain County Durham DH9 7XN
T: 01207 524859 F: 01207 524895 www.argusecology.co.uk

Contents

1 Introduction

1.1 Aims and objectives

1.1.1 This document provides information to assist the local planning authority, London Borough of Redbridge, in carrying out a Habitats Regulations Assessment ('HRA') in accordance with Article 6(3) and (4) of the EU Habitats Directive (92/43/EEC), as Competent Authority with respect to the assessment of the Redbridge Local Plan.

1.1.2 The primary aim is to provide information to assist the Competent Authority in determining whether the Local Plan would have a likely significant effect on Natura 2000 sites (European conservation sites), either alone or in combination with other plans or projects. This is equivalent to the requirements of Stage 1 of the HRA process, following the procedures set out in European and current national guidance (European Commission, 2001; DEFRA, 2012; Tyldseley & Chapman, 2013).

1.2 Redbridge Local Plan

1.2.1 Redbridge Local Plan is a spatial plan containing policies to guide the location, type, scale and design of new development between 2015 and 2030. This assessment is based on the Pre-Submission Draft plan published in July 2016, with the inclusion of revised housing figures current in February 2017.

1.2.2 The London Borough of Redbridge covers an area of 56.4km^2, and had a population of 279,000 at the 2011 census, a cumulative increase of 15% over the preceding 10 years. The Borough's population is projected to increase by 65,000 over the Local Plan period, reaching 362,000 by 2030. The Local Plan acknowledges that this growth has implications for housing and infrastructure needs.

1.2.3 Local Plan policies are organised into four Strategic Objectives, comprising:

- **Objective 1:** Promoting and Managing Growth

  Including policies for focussing development in Investment and Growth Areas, meeting housing need, and maximising employment opportunities

- **Objective 2:** Promoting a Green Environment

  Including policies for promoting sustainable transport, encouraging air quality improvements, addressing climate change and managing flood risk

- **Objective 3:** Promoting High Quality Design

  Including a policy to incorporate environmental standards into construction

- **Objective 4:** Protecting and Enhancing Redbridge's Assets

  Including policies for protecting open spaces, green infrastructure and nature conservation.

Relationship with London Plan and other London-wide plans and policies

1.2.4 The London Plan (Mayor of London, 2016) sets out development priorities and the strategic planning framework for London. It sets Borough-wide housing targets and identifies locations of London-wide importance for growth.

1.3 European conservation sites considered in assessment

1.3.1 European conservation sites comprise Special Areas of Conservation (SAC) designated under the EU Habitats Directive (Council Directive 92/43/EEC), and Special Protection Areas (SPA) classified under the EU Birds Directive (Council Directive 2009/147/EC). They collectively form part of the Natura 2000 network of European conservation sites.

1.3.2 Following an initial scanning of European sites within London Borough of Redbridge and neighbouring boroughs and districts, two potential sites were initially considered: Lee Valley Special Protection Area (SPA) and Epping Forest Special Area of Conservation (SAC).

1.3.3 After consideration of potential zones of influence and impact pathways (described in Section 3.1 below), Lee Valley SPA was excluded from further consideration, and the Stage 1 HRA focussed on Epping Forest SAC.

1.4 Regulatory basis of Habitats Regulations Assessment

European Directives

1.4.1 Article 6(3) of the Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna) states:

'*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. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of*

the site concerned and, if appropriate, after having obtained the opinion of the general public.'

1.4.2 Article 6 (4) states: 'If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.'

National Regulations

1.4.3 The Conservation of Habitats and Species Regulations 2010 (hereafter referred to as the 'Habitats Regulations') implement the provisions of the Habitats Directive in UK law. The Habitats Regulations consolidate the Conservation (Natural Habitats &c.) Regulations 1994, and Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007.

1.4.4 Regulation 61 (1) of the Habitats Regulations states:

'*A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which-*

(a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and

(b) is not directly connected with or necessary to the management of the site,

must make an appropriate assessment of the implications for the site in view of that site's conservation objectives.'

1.4.5 The 'competent authority' in this case comprises the London Borough of Redbridge, as local planning authority.

1.4.6 The Habitats Regulations were amended by the Conservation of Habitats and Species (Amendment) Regulations 2012. This provides for clearer transposition of the provisions of the Birds Directive into UK law, and revokes two Regulations (20 & 22) which duplicate measures to control potentially damaging activities on SSSIs. Regulation 9A sets out the duties of appropriate authorities and nature conservation bodies with respect to the Birds Directive. Regulation 9A (8) provides the legislative basis for considering pollution or deterioration of habitats inside or outside a designated site, transposing Article 4 (4) of the 2009 Birds Directive.

1.4.7 The Habitats and Birds Directives continue to have direct effect in the UK, and would prevail in the event of a conflict between their provisions and those of the Habitats Regulations (Tyldesley & Chapman, 2013).

1.5 Stages in a Habitats Regulations Assessment

1.5.1 It has been established that the assessment requirements under Article 6 of the Habitats Directive require a stage-by-stage approach, as set out in guidance by the European Commission (2001). These can most simply be categorised as follows:

- Stage 1: determination of likely significant effect;
- Stage 2: Appropriate Assessment to determine effect on site integrity;
- Stage 3: Consideration of alternatives; and
- Stage 4: Consideration of imperative reasons of over-riding public interest, and compensation measures.

1.5.2 This document provides information to support a Stage 1 HRA, in order to determine whether the Local Plan will have a likely significant effect on European sites, and whether an Appropriate Assessment is necessary.

1.6 Key changes to current version of document

1.6.1 This document (Version 4.0) has been revised in response to changes in the Local Plan from the draft July 2015 version to the July 2016 Pre-submission Draft. Comments received as part of the Regulation 19 consultation have also been taken into account.

Changes arising from Local Plan and housing target revisions

1.6.2 Key changes arising from changes to the Local Plan include:

- Changing the Screening Assessment of (Table 5.1 below) to reflect the current order and wording of policies;
- Checking for changes to other plans and policies since the previous HRA, to determine whether changes are needed to the in-combination assessment;
- Updating planned housing provision to reflect the most recently available figures, which reflect current advice by the Mayor of London;
- Updating the locations of Opportunity sites on Figure 5.1.

Changes arising from Regulation 19 Consultation

1.6.3 No comments were received on the HRA from Natural England, the Government's statutory nature conservation advisor, during the consultation on the Pre-Submission Draft.

1.6.4 The Epping Forest Conservators (City of London Corporation) made a number of comments on the HRA, raising a number of concerns. These have been taken account of in the following changes:

- A more explicit acknowledgement of the need to consider air quality as well as recreational impacts when assessing individual projects;
- Identification of traffic growth from industrial as well as housing development as potentially contributing to air quality impacts;
- A fuller explanation of the rationale for using a 2km buffer to define recreational impacts;
- Consideration of the deliverability of mitigation measures, where these are devolved to project-level decisions;
- Explicit inclusion of access management measures in the SAC as a potential mitigation option where access to alternative green infrastructure is poor;
- Reference to the limitations of the Local Plan in determining housing growth, with explicit acknowledgement of the over-arching role of the London Plan as part of the Borough's Development Plan; and
- Reference to the Mayor's Air Quality Strategy, including emerging proposals by the current Mayor, as a key policy driver to consider in terms of effects on European conservation sites in the Borough.

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2 Scope and methodology

2.1 Approach to assessment

2.1.1 The approach to the assessment follows guidance in Tyldesley & Chapman (2013) on carrying out Stage 1 screening assessments of plans. This essentially requires the combination of two strands of information:

- information about the plan and its likely outcomes, and
- information about the qualifying features of relevant European sites, their conservation objectives, site condition and identified vulnerabilities.

2.1.2 This process can be illustrated by the flowchart below:

Fig. 2.1: Consideration of information concerning Local Plan and qualifying features of European sites in predicting and assessing potential effects (from Tyldesley and Chapman, 2013)

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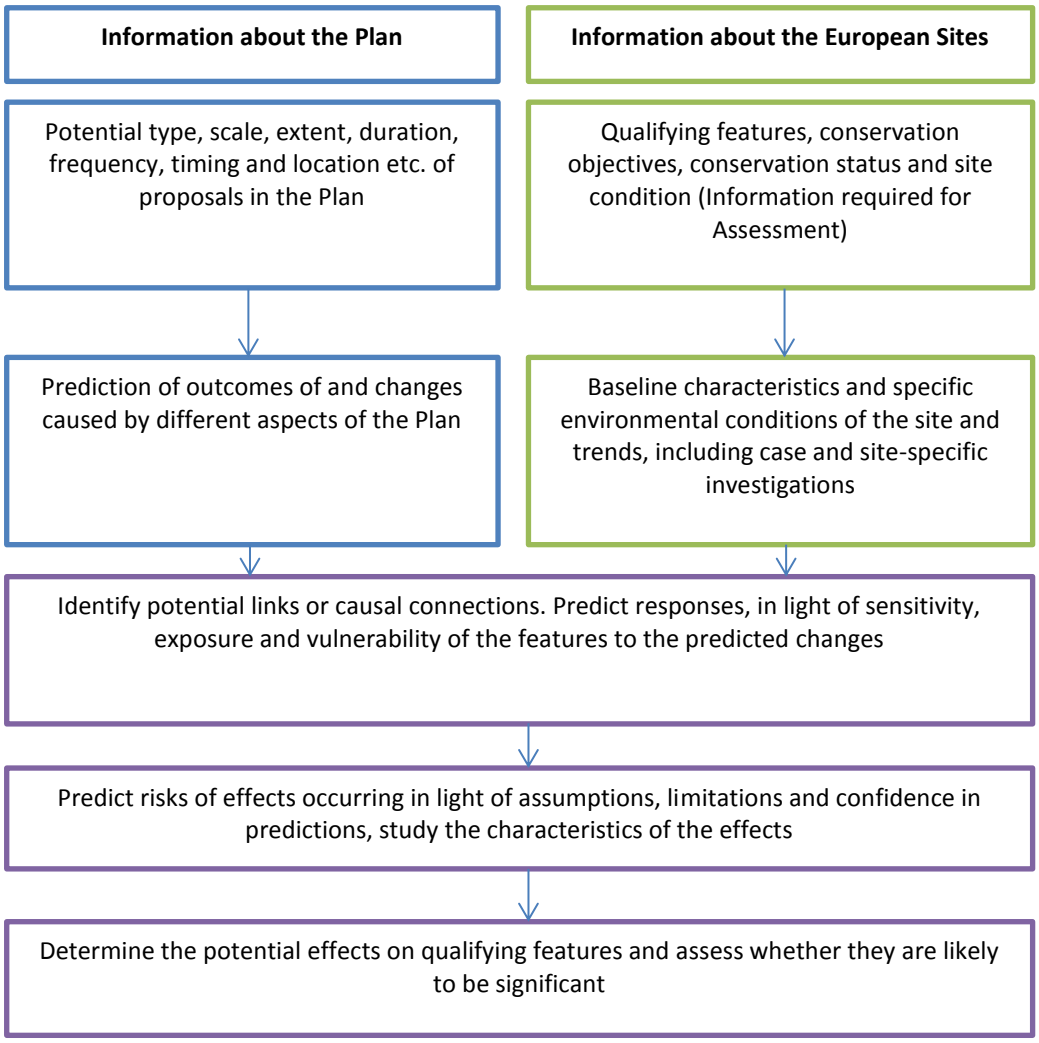


2.1.3 In order to focus on those areas of the Local Plan which have a potential effect on the qualifying features, the assessment first considers information about the European sites, and in particular the sensitivity of qualifying features to pressures or threats which may affect the maintenance or attainment of favourable conservation status.

2.2 Data sources

2.2.1 The following documents and web-based sources have been reviewed, including:

Information about European sites

- Natural England digital boundary datasets
- Natural England Site Improvement Plans
- Natural England SSSI Unit Condition Assessment digital boundary datasets
- City of London Visitor Surveys for Epping Forest.

Redbridge Local Plan and its potential ecological effects

- Redbridge Local Plan and draft Proposals Map
- Redbridge Local Plan Sustainability Appraisal.

In-combination assessment

- East London Joint Waste Strategy
- London Borough of Waltham Forest Local Development Framework Submission Core Strategy and Habitats Regulations Assessment
- Epping Forest District Council Local Plan and Habitats Regulations Scoping Assessment
- Mayor of London's Transport Strategy and Integrated Impact Assessment, with the Redbridge Local Implementation Plan
- Mayor of London's Water Strategy; and
- Mayor of London's Air Quality Strategy.

3 European conservation sites

3.1 Initial scan for relevant sites

European sites in the vicinity of Redbridge

3.1.1 Figure 3.1 overleaf shows the location of European conservation sites in the wider vicinity of Redbridge Borough, together with 400m and 2km buffer zones.

3.1.2 The only European site within Redbridge is Epping Forest SPA. A total of 43.5ha of the 1604.5ha SPA (2.9% of total) is located within the borough, with other component sites immediately adjacent within the boundaries of the London Borough of Waltham Forest and Epping Forest District. Lee Valley SPA is located within Waltham Forest Borough, over 3.9km west of the Redbridge Borough boundary at its closest point.

Definition of relevant zone of influence

3.1.3 A 400m buffer is frequently used to define a zone of influence for housing developments which would have a likely significant effect (e.g. the 'exclusion zone' defined for Thames Basin Heaths SPA (Guildford Borough Council, 2015)). This is based on likelihood of domestic cat predation and increased levels of human access.

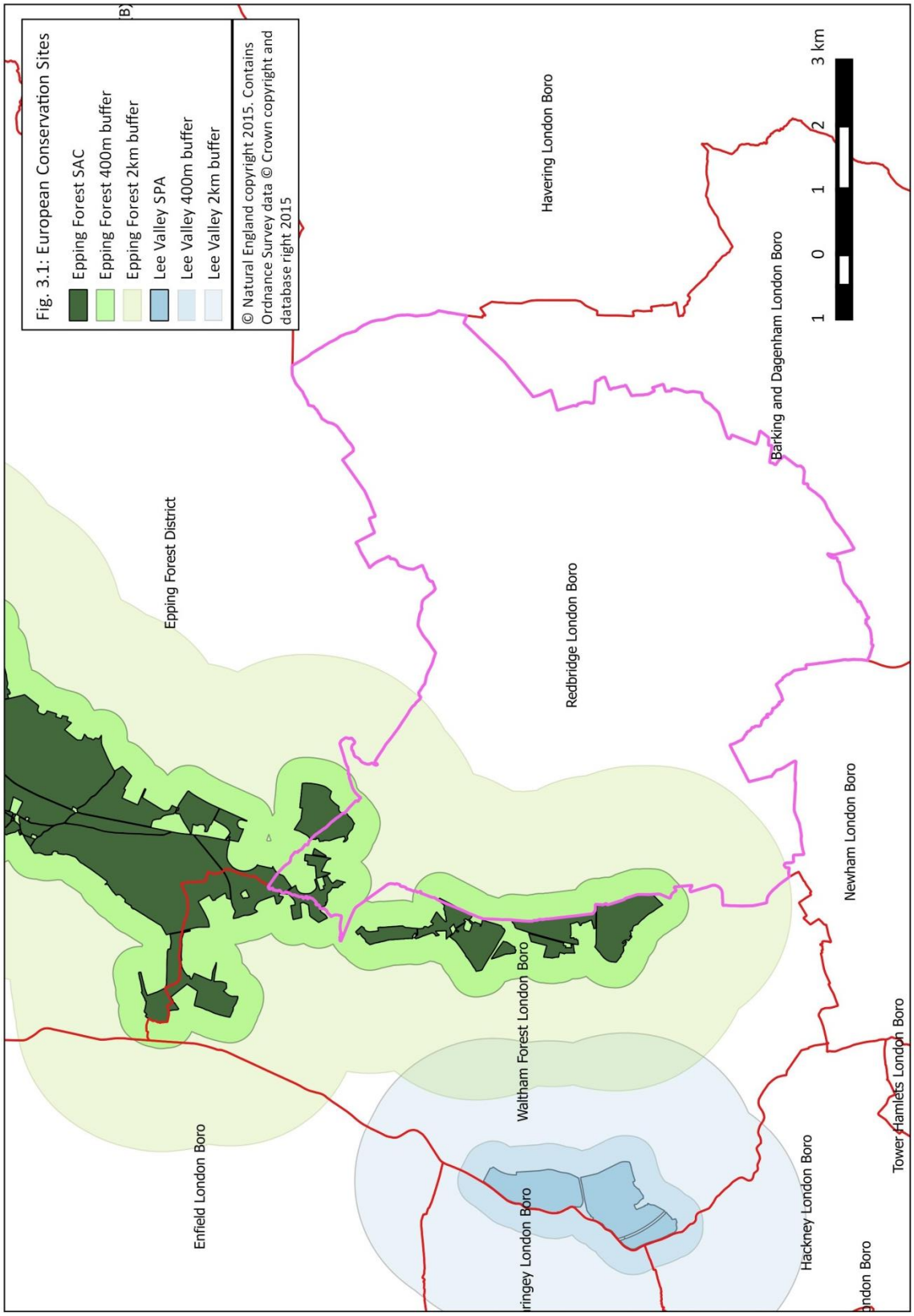
3.1.4 Various buffer zones are defined beyond this exclusion zone; for example, a 5km zone of influence has been defined for Thames Basin Heaths SPA where impact avoidance measures would be applied to new developments, with a 7km zone of influence for major developments.

3.1.5 For Epping Forest SAC, surveys have shown that 95% of visitors live within 2km of the site boundary (City of London, 2014). While the Forest will attract visitors from a much wider catchment, a 95th percentile visitor origin is an appropriate zone of influence to consider with respect to recreational impacts, as they are likely to visit more often, and be more likely to use the Forest in preference to other available open space. Over 26% of the Borough (1588ha) lies within 2km of the SAC boundary.

3.1.6 Wider zones of influence are defined with respect to air quality impacts on European sites, with distances of 10km normally defined for major point-sources such as Energy from Waste plants. With respect to the Local Plan, key air quality issues are likely to focus on diffuse pollution generated by traffic growth, unless major new roads or major growth in traffic is predicted on roads in close proximity to the European site.

3.1.7 It is reasonable to consider Lee Valley SPA as outside any relevant zone of influence for the purposes of the HRA. It is necessary to consider Epping Forest SAC with

respect to a range of possible impacts, including effects of direct development within a 400m zone, indirect impacts of recreational use within a 2km zone, and air quality effects on a Borough-wide level.



3.2 Epping Forest SAC

Qualifying features

3.2.1 Qualifying features are set out below as reproduced in the SAC Citation (English Nature, 2006).

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrub layer (*Quercion robori-petraeae* or *Ilici-Fagenion*). (Beech forests on acid soils)
- European dry heaths
- Northern Atlantic wet heaths with *Erica tetralix*. (Wet heathland with cross-leaved heath)

Qualifying species: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:

- Stag beetle *Lucanus cervus*

3.2.2 Further information on the qualifying features is given within the Citation in the following Site Description:

"*Epping Forest is a large ancient wood-pasture with habitats of high nature conservation value including ancient semi-natural woodland, old grassland plains, wet and dry heathland and scattered wetland. The semi-natural woodland is particularly extensive but the Forest plains are also a major feature and contain a variety of unimproved acid grasslands.*

The semi-natural woodlands of Epping Forest include important beech Fagus sylvatica *forests on acid soils, which are important for a range of rare epiphytic species, including the moss* Zygodon forsteri*. The long history of pollarding, and resultant large number of veteran trees, ensures that the site is also rich in fungi and invertebrates associated with decaying timber. Records of stag beetle* Lucanus cervus *are widespread and frequent.*

Areas of acidic grassland transitional with heathland are generally dominated by a mixture of fine-leaved grasses. In marshier areas, purple moor-grass Molinia caerulea *frequently becomes dominant. Broad-leaved herbs typical of acidic grassland and heathland are frequent, including heather* Calluna vulgaris*. The site also contains an*

example of wet dwarf-shrub heath with both heather and cross-leaved heath Erica tetralix."

3.2.3 There are no available maps which show distribution of qualifying features at site level; Natural England's Priority Habitat database provides an indication of local distribution. However, this is based on priority habitats listed on Section 41 of the Natural Environment and Rural Communities Act 2006, which uses a different classification to the Annex I habitats, and is not therefore directly comparable. In particular, some habitats within Epping Forest SAC, particularly open acid grassland / heathland, are not shown listed in the Priority Habitats database.

Conservation Objectives

3.2.4 The following Conservation Objectives are set out for Epping Forest SAC (Natural England, 2014):

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- **The extent and distribution of qualifying natural habitats and habitats of qualifying species;**
- **The structure and function (including typical species) of qualifying natural habitats;**
- **The structure and function of the habitats of qualifying species;**
- **The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely;**
- **The populations of qualifying species; and,**
- **The distribution of qualifying species within the site.**

Conservation Status

3.2.5 Information on the UK-wide conservation status of qualifying features is available through the report of the UK Government to the European Commission under provisions of Article 17 of the Habitats Directive (JNCC, 2013).

3.2.6 UK-wide conservation status is assessed using a number of parameters for habitats, including range; area; structures and functions (including pressures and current condition; and future prospects. Table 3.1 below summarises conservation status with respect to area, structures and functions and future prospects for the three component habitats of Epping Forest:

Table 3.1: UK-wide conservation status of Epping Forest SAC qualifying habitats

Habitat	Area	Structures and functions	Future prospects	Overall assessment
H9120: Beech forests on acid soils	Inadequate, stable	Bad, stable	Bad, stable	Bad, stable
H4010: Wet heaths	Favourable	Bad, declining	Bad, improving	Bad, stable
H4030: Dry heaths	Favourable	Bad, declining	Bad, improving	Bad, stable

3.2.7 For species, additional parameters include population size and population trend, as well as the area, quality and trend of supporting habitat. Table 3.2 summarises the assessment for the only qualifying species, stag beetle:

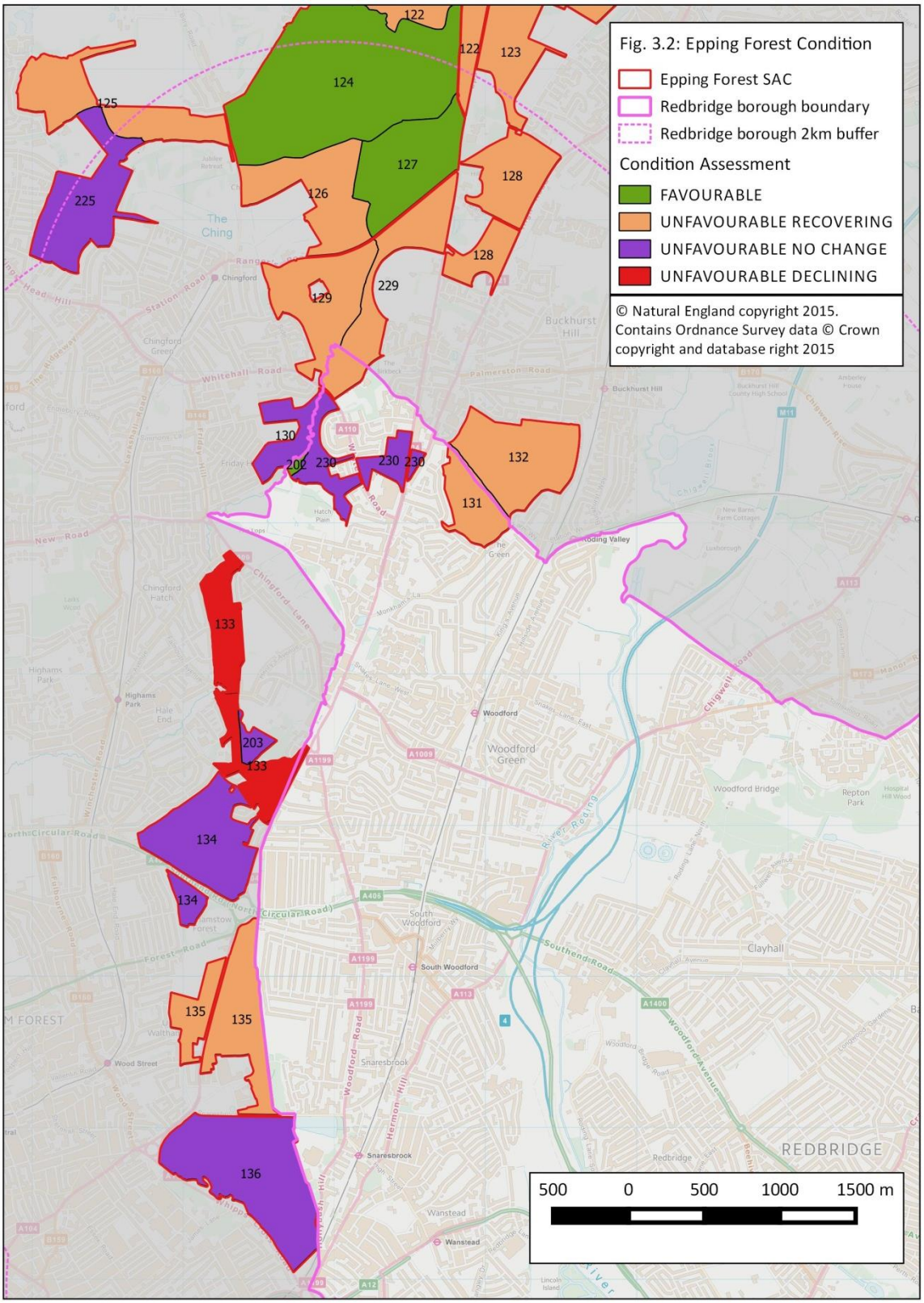
Table 3.2: UK-wide conservation status of Epping Forest SAC qualifying species

Species	Population size and trend	Habitat for the species	Future prospects	Overall assessment
S1083: stag beetle	Favourable	Favourable	Favourable	Favourable

Site condition

3.2.8 Condition assessment of European sites is assessed by Natural England as part of Common Standards Monitoring of European site qualifying features and Site of Special Scientific Interest (SSSI) qualifying interests. These are available at the level of the SSSI management unit.

3.2.9 Figure 3.2 overleaf illustrates the condition of those component units of Epping Forest SAC situated either within Redbridge Borough, or within 2km of the borough boundaries.



3.2.10 Table 3.3 below provides a summary of the relevant units, including the main reasons for their condition assessment, as summarised from data accessed from the Natural England website:

https://designatedsites.naturalengland.org.uk/ReportUnitCondition.aspx?SiteCode=S1001814&ReportTitle=EPPING%20FOREST

Table 3.3: Condition Assessment of relevant SSSI units

Main Habitat	Unit Number	Area (ha)	Assessment Description	Adverse Condition Reasons
Units wholly or partly within Redbridge Borough				
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	131	16.1296	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition. Anticipated recovery dependent on management.
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	133	32.7841	Unfavourable - Declining	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges)
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	202	0.86	Favourable	Air quality - nitrogen deposition, acid deposition
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	230	19.8366	Unfavourable - No change	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth, excessive growth of grasses compared to herbs, dense stands of nettles along roadsides)
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	122	56.1581	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges
Units within 2km of Redbridge Borough boundary				
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	123	55.0209	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges

Main Habitat	Unit Number	Area (ha)	Assessment Description	Adverse Condition Reasons
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	124	116.9521	Favourable	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges).
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	125	36.5836	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges)
ACID GRASSLAND - Lowland	126	33.9117	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species). Anticipated recovery in condition of grassland areas dependent on continuation of extensive grazing regime
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	127	36.5123	Favourable	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees)
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	128	35.0728	Unfavourable - Recovering	Air quality - nitrogen and acid deposition (stress symptoms of veteran trees, excessive growth of grasses compared to broad-leaved species).
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	129	33.8037	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, excessive grass growth relative to broadleaved species)
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	130	11.9897	Unfavourable - No change	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth). Anticipated recovery in condition of grassland and heathland areas require continued management.
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	132	37.0598	Unfavourable - Recovering	Air quality - nitrogen and acid deposition; need for continued management to ensure anticipated recovery.

Main Habitat	Unit Number	Area (ha)	Assessment Description	Adverse Condition Reasons
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	134	41.3658	Unfavourable - No change	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges)
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	135	40.8646	Unfavourable - Recovering	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	136	58.7403	Unfavourable - No change	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive grass growth relative to broadleaved species, dense stands of nettles along roadsides and ride edges). Recreational / visitor pressure - high level of recreational pressure
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	203	3.8298	Unfavourable - No change	Air quality - nitrogen deposition, acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth).
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	225	36.1326	Unfavourable - No change	Management - undergrazing; Air pollution - nitrogen and acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth, excessive growth of grasses compared to broadleaved species)
BROADLEAVED, MIXED AND YEW WOODLAND - Lowland	229	30.5217	Unfavourable - Recovering	Air pollution - nitrogen and acid deposition (stress symptoms of veteran trees, sparse bryophytes, excessive bramble growth, excessive growth of grasses compared to broadleaved species).

4 Sensitivity of qualifying features

4.1 Site Improvement Plan sensitivity matrix

4.1.1 The following sensitivity matrix is derived from identified threats ('T') and pressures ('P') in the Epping Forest Site Improvement Plan (SIP; Natural England, 2015).

Table 4.1: Epping Forest SIP sensitivity matrix

Qualifying feature	Air pollution: nitrogen deposition	Undergrazing	Public access / disturbance	Changes in species distributions	Inappropriate water levels	Water pollution	Invasive species	Disease
H9120: Beech forests on acid soils	P	-	P	T	-	-	P/T	T
H4010: Wet heaths	P	P	P	-	T	T	T	-
H4030: Dry heaths	-	-	-	-	-	-	-	-
S1083: Stag beetle	-	-	-	-	-	-	-	-

4.1.2 The SIP provides more detail on the relevant pressures and threats facing the SAC; these are summarised below.

Table 4.2: Detail of Epping Forest SAC pressures and threats (Natural England, 2015)

Pressure / threat	Effects
Air pollution: nitrogen deposition	Nitrogen deposition exceeds site-relevant critical loads for ecosystem protection. Some parts of the site are assessed as in unfavourable condition for reasons linked to air pollution impacts.
Undergrazing	The quality and diversity of the SAC features requires targeted management best achieved through grazing to: minimise scrub invasion; minimise robust grass domination, and maximise the species diversity of heathland plant communities.
Public access / disturbance	Epping Forest is subject to high recreational pressure. There is a high general level of footfall in Epping Forest throughout the year, including periods of significant use, and resulting in a diverse range of impacts which include mountain biking and unmanaged fires. Population and visitor numbers are likely to continue to increase.
Changes in species distributions	Beech tree health and recruitment may not be coping sufficiently with environmental conditions to sustain its presence and representation within the SAC feature. This may be linked to climate change as well as other factors such as air quality, recreational pressure and water availability.
Inappropriate water levels	Wet heath is dependent on suitable ground water levels. There is a threat of prolonged drying out through climate change.

Pressure / threat	Effects
Water pollution	Surface run-off of poor quality water from roads with elevated levels of pollutants, nutrients and salinity may be affecting wet heath, probably mostly around the edges.
Invasive species	Heather beetle has locally impacted on some heathland areas. Vigilance is required to survey it and increase awareness of its likely effects and signs of impact. Grey squirrel is not currently known to be significantly affecting tree health or regeneration, but there is a need to retain vigilance and perhaps consider increased awareness of the likely effects and signs of impact.
Disease	Tree diseases such as *Phytopthora* present a real threat to Beech.

4.2 Sensitivity to air quality impacts

Critical Levels

4.2.1 Given the identification of air quality impacts as an important factor affecting the favourable condition of qualifying habitats in Epping Forest SAC, it is important to give particular consideration to air quality standards and background levels of key pollutants. Of particular relevance are oxides of nitrogen (NOx) and ammonia (NH_3) levels, because of their contribution to nitrogen and acid deposition. Sulphur dioxide (SO_2), which contributes to acid deposition is generally now of less relevance, having declined since the second half of the 20th century.

4.2.2 The following Air Quality Standards are relevant to the protection of vegetation and ecosystems (from Air Pollution Information Service, APIS):

Table 4.3: Critical levels for protection of ecosystems

Pollutant	Critical Level
Oxides of nitrogen (NO_x):	30µg/m^3 annual mean (long-term mean)
	75µg/m^3 daily (24-hour) mean (short-term mean)
Ammonia (NH_3):	1µg/m^3 annual mean (sensitive bryophytes / lichens)
	3µg/m^3 annual mean (other habitats)
Sulphur dioxide (SO_2):	10µg/m^3 annual mean (sensitive lichens)
	20µg/m^3 annual mean / winter mean (other natural habitats)

4.2.3 In the case of Epping Forest, the presence of the epiphytic moss *Zygodon forsteri* indicates that the relevant Critical Level for ammonia should be the lower 1µg/m^3 annual mean. Although not a qualifying species in its own right, it is an integral component of favourable conservation status for beech woodland.

4.2.4 Background values for long-term (annual mean) levels within the SAC are given in the following table, taken from APIS concentrations and depositions information for Epping Forest SAC. These are based on modelled values for 5km grid-squares; values for the most relevant grid-squares which include those parts of the SAC within and nearest to Redbridge Borough are also given (5km grid-squares 537500,187500 and 537500,192500).

Table 4.4: Background pollutant levels at Epping Forest SAC (all values µg/m^3)

Pollutant	**Mean background** (% of CL)	**Range across SAC** (% of CL)	**Range (Redbridge 5km squares only)** (% of CL)
Oxides of nitrogen	21.6 (72%)	17.6 – 30.05 (58.7% - 100.2%)	26.4 – 30.05 (88% - 100.2%)
Ammonia	1.2 (120%)	1.02 – 2.34 (102% - 234%)	1.38 – 2.34 (138% - 234%)
Sulphur dioxide	1.5 (7.5%)	1.44 – 1.67 (7.2% - 8.4%)	1.60 – 1.61 (8% - 8.05%)

4.2.5 The values within Redbridge are generally at the higher end of the range, with the highest oxides of nitrogen values in those parts of the SAC along the western boundary of the borough, and highest ammonia values in the northern corner. It should be stressed that these are modelled values at a coarse scale of resolution; however, higher oxides of nitrogen values correlate with the more urbanised areas with higher levels of road traffic, while the northern 5km grid square includes areas of agricultural land north of London containing potential ammonia sources.

4.2.6 More detailed monitoring of nitrogen dioxide (NO_2) has been carried out by the Council following the designation of the whole of the Borough as an Air Quality Management Area (AQMA), and is reported in the 2012 *Air Quality Updating and Screening Assessment* (London Borough of Redbridge, 2012). This is primarily concerned with human health impact of air pollution, and currently involves monitoring of nitrogen dioxide (NO_2) and particulates. Consequently most monitoring is undertaken in 'worst-case' roadside locations. Urban background location are likely to be more relevant to the SAC; there are two locations in Redbridge, Mayfield School and Perth Terrace (see Figure 4.1), with monitored annual mean NO_2 levels between 28.2 – 34.2µg/m^3 in 2011. When the contribution of nitric oxide (NO) is taken into

account, total oxides of nitrogen levels at both sites will exceed the 30µg/m^3 annual mean level for protection of ecosystems.

4.2.7 Finer scale modelling of background data (1km grid) is available from DEFRA, principally for use in local air quality modelling to assess human health impacts of road traffic. Figure 4.1 shows modelled NOx values for 2011 (the latest available year based on monitoring data), with contours added in QGIS 2.8 using Contour plugin v1.3.5. This shows potentially higher background values in the west of the Borough in the vicinity of Epping Forest SAC. Values are likely to be higher in close proximity to roads, particularly heavily-trafficked routes such as the A406 North Circular Road where it crosses the SAC.

Critical Loads

4.2.8 Site-relevant Critical Loads are provided on the APIS website, and are summarised below for all qualifying features for Epping Forest SAC, with the relevant Critical Load for nitrogen for environmental screening purposes given by APIS selected from the Critical Load range.

4.2.9 An indication is also given of whether background levels currently exceed the Critical Load for each habitat; note that as for Critical Levels, APIS represents these values as a weighted average for the SAC as a whole, which covers a number of 5x5km grid squares with differing modelled background levels. As these are weighted averages, they differ from values obtained from APIS for specific grid squares.

Table 4.5: Sensitivity of qualifying features to nitrogen deposition

Qualifying feature	**Critical Load (CL) for nitrogen deposition** (for screening purposes)	**Background deposition & % CL** (mean / range)	**Sensitivity / exceedance effects**
H9120: Beech forests on acid soils	10 - 20	26.4 kg N/ha/yr (24.6 – 36.8kg)	Changes in ground vegetation and mycorrhizae, nutrient imbalance, changes soil fauna.
H4010: Wet heaths	10 - 20	15 kg N/ha/yr (14 – 20.6kg)	Transition heather to grass. Ericaceous species susceptible to frost and drought.

Qualifying feature	Critical Load (CL) for nitrogen deposition (for screening purposes)	Background deposition & % CL (mean / range)	Sensitivity / exceedance effects
H4030: Dry heaths	10 – 20	15 kg N/ha/yr (14 – 20.6kg)	Transition from heather to grass dominance, decline in lichens, changes in plant biochemistry, increased sensitivity to abiotic stress.
S1083: Stag beetle	n/a	n/a	No expected negative impact on species due to impacts on the species' broad habitat.

4.2.10 Note that the higher background values shown for woodland habitats are a consequence of the higher deposition velocity to woodland habitats. This is due to the greater surface roughness of a woodland canopy, and high leaf area index (i.e. more layers of leaves per unit area). This also means that woodland habitats in Epping Forest (in common with most woodland habitats in lowland England) show high levels of exceedance of nitrogen critical loads.

Conclusions – air quality baseline

4.2.11 Modelled background oxides of nitrogen levels, and predicted nitrogen deposition rates both support the inference from Natural England condition assessment that air quality is likely to be an important factor affecting the favourable conservation status of Epping Forest SAC.

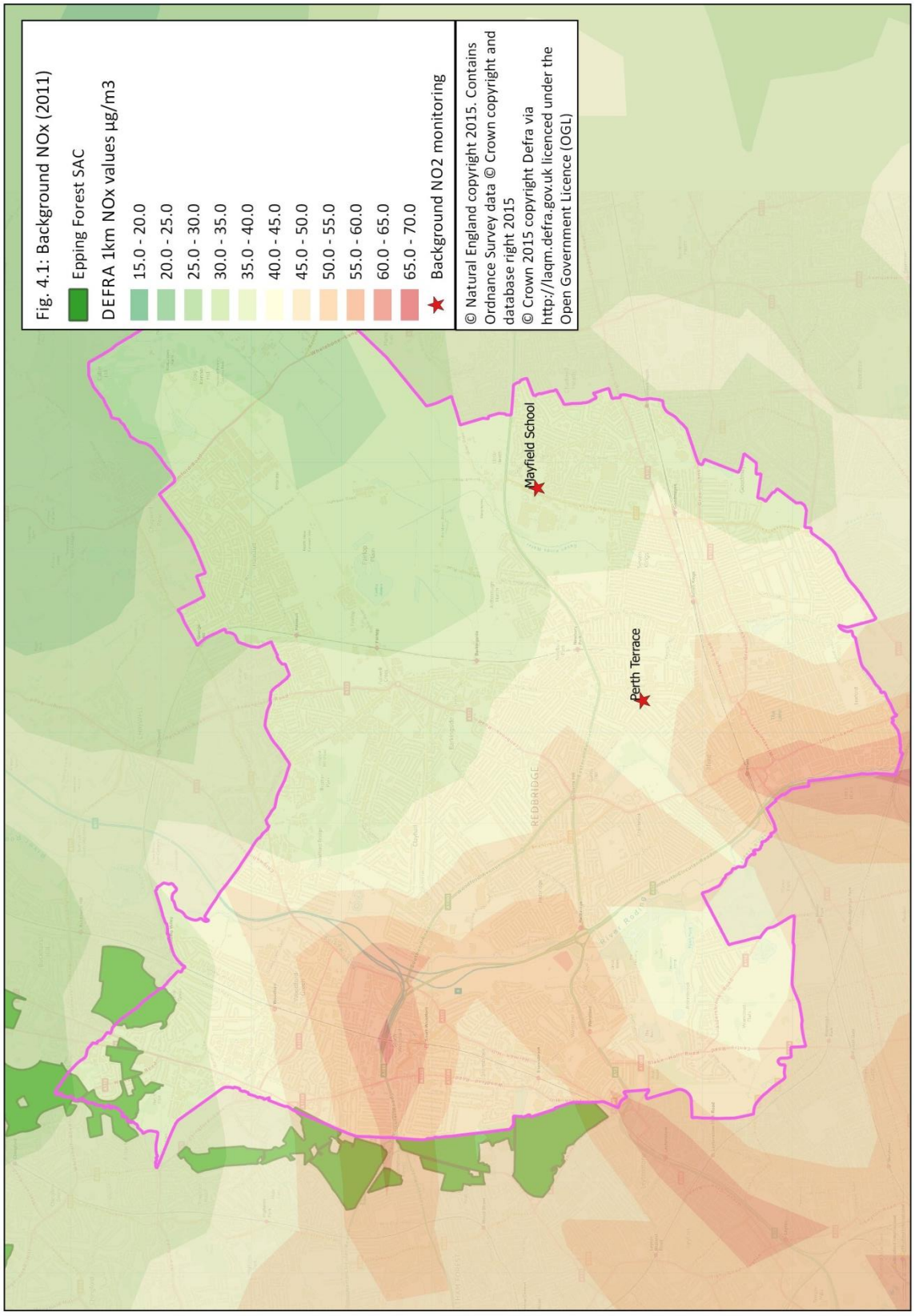


Fig. 4.1: Background NOx (2011)
Epping Forest SAC
DEFRA 1km NOx values µg/m3
15.0 - 20.0
20.0 - 25.0
25.0 - 30.0
30.0 - 35.0
35.0 - 40.0
40.0 - 45.0
45.0 - 50.0
50.0 - 55.0
55.0 - 60.0
60.0 - 65.0
65.0 - 70.0
Background NO2 monitoring
© Natural England copyright 2015. Contains Ordnance Survey data © Crown copyright and database right 2015
© Crown 2015 copyright Defra via http://laqm.defra.gov.uk licenced under the Open Government Licence (OGL)
Mayfield School
Perth Terrace
REDBRIDGE

5 Screening of Local Plan policies

5.1 Key policy areas relevant to assessment

5.1.1 Key policy areas with the potential to impact on Epping Forest SAC can be defined as those which could impact on the Conservation Objectives (paragraph 3.2.3), or which would exacerbate or mitigate the Pressures and Threats set out in the Site Improvement Plan (Table 4.2). These potentially cut across a range of topic areas, and can be summarised as:

- Policies governing direct impacts upon a European site;
- Policies affecting development location within European Site 'risk zone' of up to 2km from Epping Forest SAC;
- Policies affecting recreational opportunities, particularly within 2km of Epping Forest SAC;
- Policies affecting air quality, particularly those relating to transport planning and vehicle use;
- Policies affecting water quality and water supply; and
- Policies relating to climate change.

5.1.2 Relevant policies are considered in turn below, where necessary with consideration of their supporting information set out in the Local Plan, in order to determine whether they can be screened out from further assessment. Policies which have an explicit spatial dimension (e.g. land allocation for housing or industry) are screened out where they are not likely to have a possible impact on relevant buffer zones. The locations of such policies are illustrated in Figure 5.1.

5.1.3 In accordance with guidance in the *Habitat Regulations Assessment Handbook* (Tyldesley & Chapman, 2013), aspects of the Local Plan which refer to general aspirations, and general statements of overall goals and broad objectives can be screened out.

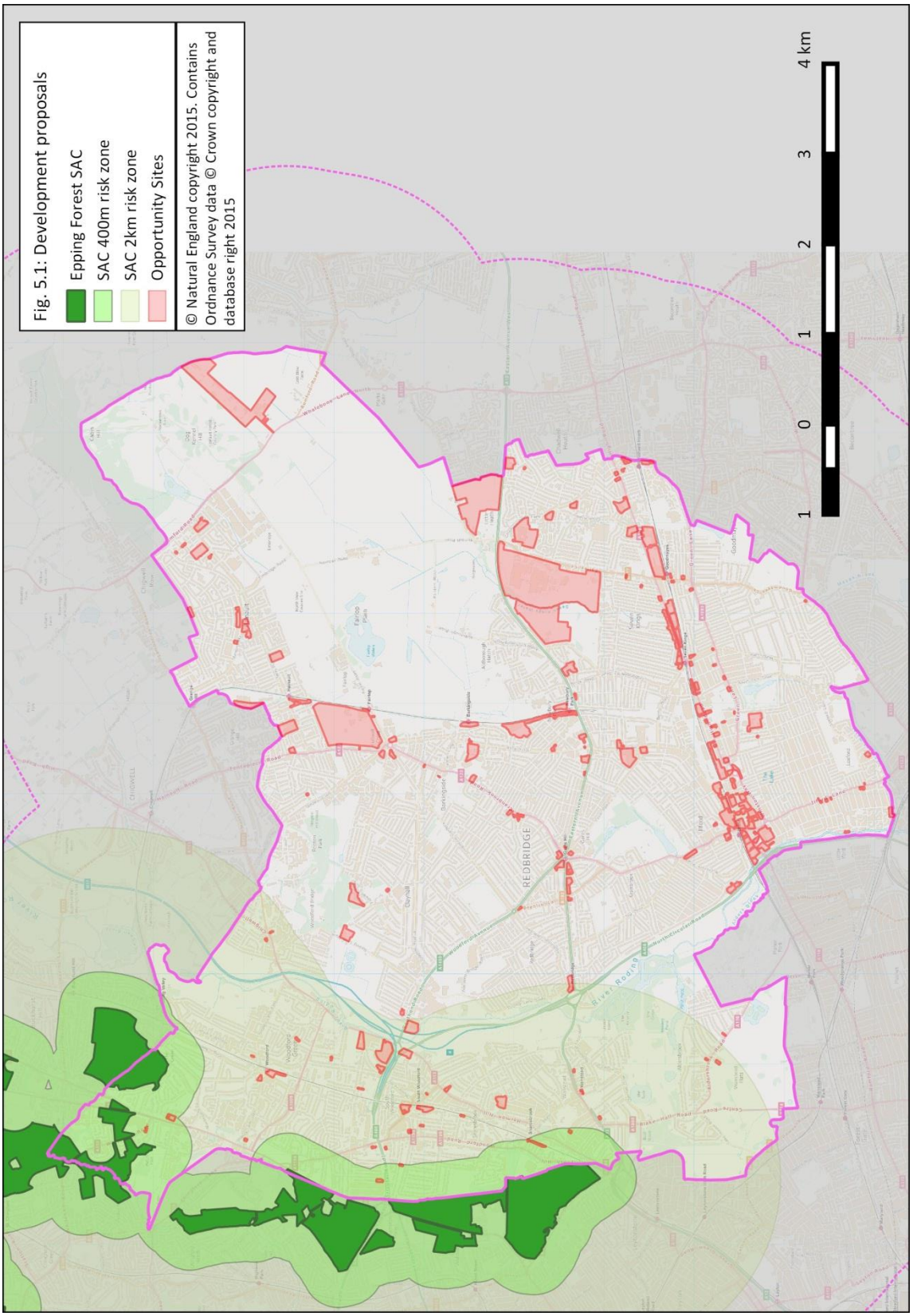


Fig. 5.1: Development proposals
Epping Forest SAC
SAC 400m risk zone
SAC 2km risk zone
Opportunity Sites
© Natural England copyright 2015. Contains Ordnance Survey data © Crown copyright and database right 2015
1 0 1 2 3 4 km
REDBRIDGE
River Roding

5.2 Screening of Local Plan policies

Table 5.1: Initial Screening Assessment

Policy	Assessment and reasoning	Conclusion
Promoting and Managing Growth		
Policy **LP1**: Spatial Development Strategy	Focusses development on Investment and Growth Areas with good public transport links, minimising traffic pollution: **positive impact** which offsets overall increase in population by minimising associated traffic growth	**Screened out**
	Ilford, Gants Hill, Barkingside, and Crossrail Corridor Investment and Growth Areas all located outside 2km zone of potential recreational impact on SAC: **neutral**	**Screened out**
	South Woodford Investment and Growth Area located within 2km zone of recreational impacts and may result in increased recreational pressure on SAC and possible local-scale air quality effects from road transport: **potential for negative effects**	**Screen in** – possible need for mitigation / in-combination effect
LP1A: Ilford Investment and Growth Area	Ilford is the primary focus of housing and employment growth in the Borough, with 6,063 homes sought within the Local Plan period. Due to high levels of public transport accessibility which will be enhanced by Crossrail, and incorporates improved pedestrian and cycle access to high quality open space (Valentines Park): **neutral to positive impact**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP1B: Crossrail Corridor Investment and Growth Area	The Crossrail Corridor (Seven Kings, Goodmayes and Chadwell Heath) in the east of the Borough has the capacity to provide 5,048 homes. These also benefit from good accessibility to public transport, and therefore have a **neutral to positive impact**	**Screened out**
LP1C: Gants Hill Investment and Growth Area	Provides for 573 new homes, with improved links to Valentines Park and improved cycling infrastructure. **Neutral to positive impact**	**Screened out**
LP1D: South Woodford Investment and Growth Area	Provides for 487 new homes, mostly located close to South Woodford Underground Station, minimising car travel but with potential increased recreational pressure on SAC. Proposed improvements to Charlie Browns Roundabout (M11 / North Circular / Woodford Avenue junction) to relieve traffic congestion and improve pedestrian access will potentially improve local air quality, and access to open space at Roding Valley Park are both mitigating measures, but overall potential **negative** effect.	**Screen in** – possible need for mitigation / consideration of in-combination effects
LP1E: Barkingside Investment and Growth Area	Provides for 1,128 new homes; although a major Opportunity Site (Oakfield) is currently recreational open space, the site will retain good accessibility to high quality open spaces (Fairlop Waters Country Park) and close proximity to public transport links at Fairlop Underground Station. **Neutral to positive impact**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP2: Delivering Housing Growth	Planned 18,936 dwellings within Plan period with potential effects on traffic generation / pollution and recreational visits to SAC. However, of 16,236 units allocated by area, only 487 are in South Woodford Investment and Growth Area (2.99%); other Opportunity Sites within 2km of the SAC risk zone are small, and none directly adjoin SAC. Policy is therefore largely **neutral**, with possible **minor negative** impacts in limited areas in the west of the Borough.	**Screen in** – possible need for mitigation / in-combination effect
LP3: Affordable Housing	Could not have any conceivable effect on SAC: **neutral**	**Screened out**
LP4: Specialist Accommodation	Could not have any conceivable effect on SAC: **neutral**	**Screened out**
LP5: Dwelling mix	Emphasis on larger family homes emphasises need that calculation of recreational pressure reflects likely occupancy rates, in areas where project-level HRAs may be required, but policy does not itself impact on SAC: **neutral**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP6: Dwelling Conversions, Houses in Multiple Occupation and Houses in Multiple Residential Occupation	Seeks to restrict conversion of properties to multiple dwellings to Metropolitan, District or Local centres; magnitude of impact in terms of population growth in risk zone likely to be very low: **neutral**	**Screened out**
LP7: Back Gardens	Limited impact on population growth, no effect on SAC: **neutral**	**Screened out**
LP8: Gypsies and Travellers	Current Forest Road site is well outside the SAC 2km risk zone; policy makes reference for need for additional sites to avoid SSSIs or other environmentally sensitive sites, which would protect SAC: **neutral**	**Screened out**
LP9: Ensuring the Future Vitality and Viability of Town Centres	Retail, leisure and evening uses will not have any effect on SAC through changes in recreational use; emphasis on accessibility by public transport minimises air quality impacts: **neutral**	**Screened out**
LP10: Managing Town Centres and Retail Uses	Policy for concentrating retail / office use in town centres and resisting out-of-town developments will minimise effects of vehicle pollution: **neutral to positive**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP11: Managing Clustering of Town Centre Uses	No likely impact: **neutral**	**Screened out**
LP12: Night-Time Economy	No likely impact: **neutral**	**Screened out**
LP13: Hotels and Tourist Accommodation	Policy promotes sustainable location of hotels in town centres and close to transport hubs, minimising air quality effects: **neutral**	**Screened out**
LP14: Stimulating Business and the Local Economy	Two Strategic Industrial Locations have been designated, one of which (Southend Road Business Park) is just within the 2km buffer zone. One Local Business Area, Ravens Road, is also within the 2km buffer. Some risk of additional vehicle traffic generation impacting air quality, but no likely effect on recreational pressure: **neutral to negative**	**Screen in** – possible need for mitigation / in-combination effect
LP15: Managed Workspace	No likely effect: **neutral**	**Screened out**
LP16: Skills and Training	No likely effect: **neutral**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP17: Delivering Community Infrastructure	Policies seek to concentrate community infrastructure in Town Centres; no proposals in close proximity to SAC and nature of developments would not cause significant effect if located in wider 2km risk zone**:** **neutral**	**Screened out**
LP18: Health and Well-Being	Integrated approach with emphasis on access to open space and control of air pollution: **positive**	**Screened out**
Promoting a Green Environment		
LP19: Climate Change Mitigation	Policy will mitigate for climate change which is identified as an exacerbating factor on threats to SAC, and seek to minimise need for car travel in new developments: **positive impact**	**Screened out**
LP20: Low Carbon and Renewable Energy	Possibility for both district heating schemes and other renewable energy projects to impact on SAC, but proposals incorporate protection of environmental assets in explicit requirement to consider other Local Plan policies: **neutral**	**Screened out**
LP21: Water and Flooding	Policies mostly have no effect on SAC, although beneficial for wider aquatic and riparian biodiversity in the Borough: **neutral**	**Screened out**
LP22: Promoting Sustainable Transport	Range of policies very important in helping to offset increase NOx levels / nitrogen deposition on SAC arising from any growth in car journeys due to population increase: **positive**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP23: Cycle and Car Parking	Includes policies which support green transport and cycle parking; car parking policies have no negative effect on SAC, but requirement to include 20% of spaces accessible to electric charging points will promote reduction in traffic-related NOx emissions: **neutral to positive**	**Screened out**
LP24: Pollution	Delivery policies relating to air quality will address one of the key pressures affecting SAC, while water quality policies may be beneficial in some circumstances; requirement for Air Quality Assessment (AQA) to include trip generation and requirement for smaller developments to consider cumulative effects means policy is **positive**	**Screened out**
LP25: Telecommunications	No possible adverse effect on SAC qualifying features: **neutral**	**Screened out**
Achieving Quality Design		
LP26: Promoting Good Design	No likely effect: **neutral**	**Screened out**
LP27: Tall Buildings	No developments supported close to SAC, no predicted effects: **neutral**	**Screened out**
LP28: Advertising and Shop Fronts	No likely effect: **neutral**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP29: Amenity and Internal Space Standards	No likely effect: **neutral**	**Screened out**
LP30: Household Extensions	No likely effect: **neutral**	
LP31: Basement Development	No likely effect: **neutral**	
LP32: Sustainable Design and Construction	Incorporation of environmental standards in housing construction will help to reduce energy use and contribute to air quality improvements: **positive**	**Screened out**
LP33: Heritage	No likely effect: **neutral**	**Screened out**
Protecting and Enhancing the Borough's Assets		
LP34: Managing and Protecting the Borough's Green Belt and Metropolitan Land	Will help to maintain outdoor recreation provision outside the SAC and reduce recreational pressure: **positive**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP35: Protecting and Enhancing Open Spaces	Will help to maintain and improve outdoor recreation provision outside the SAC and reduce recreational pressure of new developments; includes policy to seek on-site provision of publicly accessible open space, particularly in major new developments in areas of deficiency: **positive**	**Screened out**
LP36: Allotments and Local Produce	No effect on SAC, provided no adjacent areas brought into cultivation with potential for localised nutrient enrichment and escape of non-native species; no such proposals identified in policy: **neutral**	**Screened out**
LP37: Green Infrastructure and Blue Ribbon Network	Will benefit SAC indirectly by alternative greenspace provision, and may help maintain functionally linked habitat. Possible negative impact of increasing visitor pressure if measures increase accessibility of SAC without corresponding visitor management measures but overall **positive**	**Screened out**
LP38: Protecting Trees and Enhancing the Landscape	Policies likely to be applied mostly outside SAC, given responsibility of Corporation of City of London for Epping Forest management; however policies for protection of mature trees may help maintain functionally linked habitat in vicinity of SAC**: positive**	**Screened out**
LP39: Nature Conservation and Biodiversity	Policies for protection of Epping Forest SAC accord with the requirements of the Habitats Directive and Habitats Regulations, and accord with the hierarchy of protection set out in National Planning Policy Framework (NPPF) paragraph 117. A 2km Risk Zone is established in order to define an area where screening assessment for built development may need to be undertaken. 'Trans-boundary' effects on parts of the SAC in neighbouring administrative areas are explicitly considered. Through providing adequate, proportionate policy protection for the SAC, the policy is **positive**	**Screened out**

Policy	Assessment and reasoning	Conclusion
LP40: Burial Space	No new provision within Plan period; no likely effect: **neutral**	**Screened out**
Implementation and Monitoring		
LP41: Delivery and Monitoring	Sets out mechanisms to achieve delivery of measures at project level which would act to avoid effects on SAC. These include the Community Infrastructure Levy (which can be used to fund open space provision) and Section 106 Agreements (which can be used to fund landscaping, open space provision and tackle environmental impacts). Policy also allows for pooled contributions, which could be used to address in-combination effects of developments. Overall effect is **positive**	**Screened out**

5.3 Mitigation proposals

Mitigation requirements

5.3.1 The initial screening process has identified three policies which may require mitigation, and which should be further assessed in terms of in-combination effects with other plans and projects. Other policies are either all neutral or have a positive effect. Many of the positive policies offset the effects of increased housing and population size on air quality and recreational pressure.

Policy LP1 and LP1D – Spatial Development Strategy

5.3.2 The effect of the policy is generally positive, locating most Investment Areas well away from Epping Forest SAC, in areas with good public transport links, although this is not based on any explicit acknowledgement of Epping Forest SAC in the decision-making process.

5.3.3 Part of the South Woodford Investment and Growth Area covered in policy LP1D lies within the 2km SAC risk zone defined by Policy LP39 (Nature Conservation and Biodiversity). Policy LP39 refers to the need for developments within this zone to be screened for likely significant effect on the SAC, in accordance with the Habitats Regulations. This will ensure that individual projects brought forward in accordance with Policy LP1 and LP1D consider their effects, either alone or in combination with other developments, on the SAC.

Policy LP2 – Delivering Housing Growth

5.3.4 It could be argued that the most significant effect of this policy is not increased recreational pressure, but the broader effects of an increased population on air quality and water supply to the SAC. However, given the fact that the need to allocate housing and accommodate an increased population is driven at London-wide level in the London Plan, this aspect is not amenable to direct mitigation in the Local Plan. Similarly, use of water resources and groundwater abstraction are governed by the Mayor of London's Water Strategy. However those Local Plan policies which can mitigate air quality effects all act in a positive manner to mitigate effects of increased housing numbers.

5.3.5 As for Policy LP1, housing allocations are mostly located well outside the proposed 2km risk zone around the SAC, and will therefore not contribute significantly to recreational impacts. Only 2.97% of housing allocations are within the risk zone, which covers 26% of the Borough's area. A smaller number are within 400m of the

SAC, where the likelihood of recreational disturbance is higher. These comprise a total area of 1.25ha, with an estimated total allocation of 53 units. As noted above, Policy LP39 will ensure that individual projects brought forward in accordance with Policy LP1 consider their effects, either alone or in combination with other developments, on the SAC.

5.3.6 If an individual project is found to have a likely significant effect, suitable mitigation can be incorporated to avoid this, through implementation of measures such as Suitable Alternative Natural Greenspace (SANG), contribution to management of open space and Green Infrastructure, or a contribution to visitor management measures in Epping Forest where accessibility to alternative greenspace cannot be improved. Building such measures into development master-planning will enable sharing of costs, while ensuring that in-combination effects of a number of small projects are fully addressed, preventing 'salami-slicing' to avoid implementation of mitigation measures.

5.3.7 While acknowledging the need for some mitigation of recreational impacts on the SAC, there is no reason why such measures should be too onerous, or act as a brake on sustainable development. In mitigating potential recreational impacts, it should be recognised that:

- Epping Forest SAC qualifying features are generally relatively less sensitive to a given level of increase in recreational pressure than (for example) those of an SPA designated for ground-nesting birds (such as Thames Basin Heaths) or wintering waterfowl (such as Lee Valley);
- Epping Forest is already managed by the Corporation of the City of London in a positive manner to accommodate visitor numbers, while limiting damage to qualifying features; and
- The visitor catchment is already heavily urbanised around those parts of the SAC close to Redbridge, meaning the proportionate increase in visitor numbers from the relatively small quantity of development within the Redbridge 2km risk zone would be small.

Policy LP14 - Stimulating Business and the Local Economy

5.3.8 One of two Strategic Industrial Locations (Southend Road Business Park) and one Local Business Area (Ravens Road) are located within the 2km risk zone. Industrial and business developments are unlikely to generate significant additional recreational

pressure on the SAC, but could generate local traffic growth which may contribute towards local air quality issues.

5.3.9 The Southend Road site in particular has good links with the North Circular Road, potentially contributing to high NOx levels in areas close to the road (see Figure 4.1 above), and which includes parts of the SAC assessed as being in unfavourable condition due to poor air quality (see Figure 3.2).

5.3.10 Because of high baseline traffic flows on the North Circular Road, contributions from traffic generated by additional developments at Southend Road are unlikely to be regarded as significant; the Environment Agency significance threshold is a 1% 'process contribution' to the relevant air quality standard (Critical Level or Critical Load). Nevertheless, it is important that this is tested, and developments likely to generate significant road traffic growth are subject to an Air Quality Assessment (AQA), and that Epping Forest SAC is considered as a sensitive receptor in the AQA.

Conclusion

5.3.11 Policies LP1, LP1D and LP2 propose relatively little development within the 2km Risk Zone as a proportion of the area of the Borough covered, although South Woodford Investment and Growth Area lies within it. Policy LP39 includes sufficiently robust provisions to ensure that projects brought forward within this Risk Zone will be subject to a screening assessment, with the ability to incorporate mitigation measures which will avoid a likely significant effect on Epping Forest SAC. Policy LP41 allows for pooled contributions from individual developments, which could serve to address the in-combination effects of several small developments.

5.3.12 A number of policies will serve to mitigate against potential air quality impacts of traffic-generating industrial developments. These include Policies LP19 and LP22, while LP24 provides the policy basis for the local planning authority to require an AQA. Any AQA which addresses potential increases in NOx emissions in the western part of the Borough should consider effects on ecological receptors in accordance with Environment Agency guidance, in addition to considerations of human health impacts.

5.3.13 The effect in total of Local Plan policies is to incorporate sufficient mitigation and project-level safeguards to conclude 'no likely significant effect' on Epping Forest SAC. However, before confirming this conclusion, it is necessary to consider in-combination effects of other relevant plans.

5.4 Assessment of in-combination effects

Requirement for in-combination assessment

5.4.1 There is a possibility that population growth and housing allocations covered in Policies LP1 and LP2, and traffic growth from industrial development in policy LP14 could act in a cumulative manner with comparable policies in neighbouring authorities to produce in-combination effects on Epping Forest SAC with respect to recreational or air quality impacts.

5.4.2 As the Local Plan falls within the structure of the London Plan, and broadly conforms to its framework, the London Plan is not explicitly considered in the in-combination assessment. However, it is relevant to consider London-wide policies governing transport, air quality, water and waste management for in-combination effects, particularly where they address matters which are outside the scope of the Local Plan. For example, there is a possibility that the mitigation of air quality impacts through policies to locate development near transport hubs, promote sustainable transport and reduce pollution could either be reinforced or offset by wider-scale plans, including those governing transport and waste strategy. Policies regarding water quality and water use could act in-combination with population growth and additional housing to either increase or mitigate water stress in the SAC and its effects on tree health.

Plans screened for in-combination effects

5.4.3 The following plans have been screened for possible in-combination effects. Where available, the results of any HRA, Sustainability Appraisal or Strategic Environmental Assessment (SEA) have been consulted to assess their predicted effects on Epping Forest SAC.

Table 5.1: Screening of relevant plans for in-combination effects

Plan	HRA
Waltham Forest Local Plan	HRA prepared (URS / Scott Wilson, 2010); comments on HRA in Planning Inspector's Report consulted (Planning Inspectorate, 2011)
Epping Forest Draft Local Plan, Consultation October 2016	HRA Scoping Report prepared (Scott Wilson, 2010)

Plan	HRA
Joint Waste Development Plan for the East London Waste Authority Boroughs, Adopted February 2012 (ELWA, 2012)	Inspector's Report consulted which notes that a HRA was carried out and accepted by Natural England
Mayor of London's Transport Strategy, May 2010 (GLA, 2010a)	Determined by Natural England not to be required and responsibility devolved to Local Implementation Plans (LIPs) (TfL, 2010)
Local Implementation Plan (LIP), April 2011	SEA incorporating HRA completed, Non-Technical Summary included as LIP appendix
Securing London's Water Future. The Mayor's Water Strategy October 2011	No HRA report found, Sustainability Appraisal predicted potential positive effects on biodiversity through reduced water abstraction
Mayor of London's Air Quality Strategy (GLA, 2010b)	No HRA report or Sustainability Appraisal

Neighbouring Local Plans

5.4.4 Both Waltham Forest Local Plan and Epping Forest District Local Plan identify Epping Forest SAC as requiring HRA of plan policies.

5.4.5 Epping Forest's Local Plan is currently (February 2017) at Consultation Draft stage, and is informed by an HRA Scoping Report produced in October 2010.

5.4.6 The same range of vulnerabilities addressed in this document have been identified in the Epping Forest HRA, although it does not identify spatial plans in the neighbouring London boroughs as relevant for assessment of in-combination effects (Scott Wilson, 2010).

5.4.7 The Waltham Forest Local Plan incorporates a Key Growth Area (Wood Street) as close as 0.5km from Epping Forest SAC. The HRA concluded that mitigation measures for Epping Forest SAC within the Local Plan were adequate; they included a requirement for developments within 200m to include a Travel Plan (because of local impacts on air quality), while the requirement of developments elsewhere to

contribute to Green Infrastructure was seen as fulfilling the requirement for diversion of recreational pressure.

5.4.8 Waltham Forest's HRA placed greater emphasis on the need to manage recreational access at Lee Valley SPA (recognising the frequently greater sensitivity of sites designated for ornithological interest) and proposed a Borough-wide SANG solution. This approach was accepted by the Planning Inspector, with some strengthening of policies recommended.

Joint Waste Development Plan

5.4.9 The East London Joint Waste Plan has been assessed as having no likely significant effect on European sites, a finding which was endorsed in the Inspector's Report.

5.4.10 Consideration has been given in this assessment to the Joint Waste Plan's allocation of sites for energy recovery projects, which can contribute to nitrogen deposition. None are located in areas likely to have a significant effect on Epping Forest SAC, based on distance and direction.

Mayor of London's Transport Strategy and Local Implementation Plan

5.4.11 Although not subject to HRA, this contains policies which support public transport, walking and cycling, incorporating a number of initiatives such as Crossrail which will have a directly beneficial effect on sustainable transport in Redbridge Borough.

Mayor of London's Water Strategy

5.4.12 This contains a number of policies to offset the potential impacts of over-abstraction which could affect natural habitats within London and hydrologically linked areas. The policy therefore helps to mitigate against potential effects of population growth on water supply in Epping Forest and other SAC and SPA sites in and around London. The Sustainability Appraisal noted that positive effects on biodiversity were dependent on the effectiveness of policies in reducing *per capita* water use.

Mayor of London's Air Quality Strategy

5.4.13 This contains policies aimed at both transport and spatial planning to improve air quality, with the objective of reducing levels of particulate matter (PM) and nitrogen dioxide (NO_2) in London's air. Although primarily aimed at improving air quality standards for human health, Epping Forest SAC is noted to be of particular risk due to the effects of high NOx levels.

5.4.14 Implementation of the Strategy will have a positive effect on the SAC, and can therefore be regarded as having a positive in-combination on measures in the Local Plan which contribute to air quality improvements, and an offsetting effect on measures which accommodate population increase and generate vehicle traffic.

5.4.15 A recent consultation was held on changes to the Mayor's proposals to improve air quality (Transport for London, 2017). This included options for extension of the planned central London Ultra-low Emission Vehicle (ULEV) zone. Options included a London-wide ULEV zone for heavy vehicles, or extending the ULEV zone up to (but not including) the North Circular for all vehicles. Adoption of either of the ULEV extension measures would be reasonably expected to deliver benefits to NOx levels in parts of Epping Forest SAC.

Conclusion

5.4.16 The Local Plans for neighbouring boroughs have either not identified likely significant effects on the qualifying features of Epping Forest SAC, or (in the case of Waltham Forest Local Plan) have addressed these through mitigation measures.

5.4.17 Wider-scale strategies for transport, air quality and water use all seek to offset the effects of population growth, and support policies in the Borough Local Plan. As such they do not act in-combination to increase the risk of significant effects on the SAC.

6 Conclusions

6.1 In the key areas of planned residential development and population increase within SAC 'risk zones', and policies affecting air quality, the assessment indicates that there would be no likely significant effect on European sites as a consequence of implementing the Local Plan, subject to some project-level mitigation measures provided for in development control policies.

6.2 Potential negative effects of increased population size and growth in car usage and ownership are largely effectively mitigated by locational policies for major development areas, and by measures to improve public transport links and encourage the use of walking and cycling. In terms of locational policies, although over 26% of the Borough's area is within 2km of Epping Forest SAC, less than 3% of spatially allocated housing units are within this risk zone.

6.3 The Local Plan's nature conservation policy (Policy LP39) incorporates the 2km risk zone proposed by this assessment, where screening of developments which may have a potential significant effect on the SAC is required. This provides sufficient policy protection to ensure there would be adequate scrutiny of individual projects and their in-combination effects. Proportionate measures to offset recreational impacts on Epping Forest SAC of residential developments within 2km may then be required to avoid likely significant effects.

6.4 Natural England have previously advised in respect of the *Core Strategy Review Preferred Options Report* that they did not consider an Appropriate Assessment was required in respect of that plan, essentially concluding 'no likely significant effect' (letter of 15th February 2013). Natural England have not made further comments during the Regulation 19 consultation for the Pre-Submission Local Plan.

6.5 It is therefore recommended that the Borough Council, as Competent Authority with respect to the Habitats Regulations Assessment, concludes that there will be **no likely significant effect** of the Local Plan on European conservation sites.

7 References

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