

Draft London Plan

Habitats Regulations Assessment

Greater London Authority

July 2026

Quality information

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Table of Contents

Executive Summary	1
1. Introduction	1
1.1 Background	1
1.2 Legislation	1
1.3 Scope of Assessment	2
2. Methodology	5
2.1 Introduction to HRA methodology	5
2.2 Description of HRA tasks	5
2.3 In-combination plans	9
2.4 Quality assurance	12
3. Introduction to impact pathways	13
3.2 Recreational activities and urbanisation	13
3.3 Atmospheric pollution	18
3.4 Water abstraction	24
3.5 Water quality	24
4. Likely significant effects	25
5. Appropriate Assessment: Epping Forest SAC	27
5.1 Introduction	27
5.2 Recreational activity and urbanisation	27
5.3 Air quality	31
6. Appropriate Assessment: Lee Valley Ramsar and SPA	35
6.1 Introduction	35
6.2 Recreational activity and urbanisation	36
6.3 Air quality	38
6.4 Water resources	39
7. Appropriate Assessment: Richmond Park SAC	40
7.1 Introduction	40
7.2 Recreational activity and urbanisation	40
7.3 Air quality	41
8. Appropriate Assessment: South West London Waterbodies SPA	43
8.1 Introduction	43
8.2 Recreational activity and urbanisation	43
8.3 Air quality	46
8.4 Water resources	48
9. Appropriate Assessment: Wimbledon Common SAC	49
9.1 Introduction	49
9.2 Recreational activity and urbanisation	49
9.3 Air quality	52
10. Habitats Sites beyond London	55
10.1 Burnham Beeches SAC	55
10.2 Mole Gap to Reigate Escarpment SAC	56
10.3 Thames Estuary and Marshes SPA and Ramsar site and other downstream Habitats Sites on the River Thames	58
10.4 Thames Basin Heaths SPA	60

10.5 Thursley, Ash, Pirbright & Chobham SAC	61
10.6 Windsor Forest & Great Park SAC	62
Wormley- Hoddesdonpark Woods SAC	63
Appendix A Figures	65
Appendix B Screening of policies	66
Appendix C Details of Habitats Sites	86
C.1 Burnham Beeches SAC	86
C.2 Epping Forest SAC	87
C.3 Lee Valley Ramsar	88
C.4 Lee Valley SPA	88
C.5 Mole Gap to Reigate Escarpment SAC	89
C.6 Richmond Park SAC	90
C.7 South West London Waterbodies SPA	91
C.8 Thames Basin Heaths SPA	92
C.9 Thames Estuary and Marshes Ramsar	93
C.10 Thames Estuary and Marshes SPA	94
C.11 Thursley, Ash, Pirbright & Chobham SAC	95
C.12 Wimbledon Common SAC	96
C.13 Windsor Forest and Great Park SAC	97
C.14 Wormley-Hoddesdonpark Woods SAC	98

Figures

Figure 1: The legislative basis for Appropriate Assessment	2
Figure 2: Four Stage Approach to Habitats Regulations Assessment. Source EC, 2021.	5
Figure 3: Tiering in HRA of Land Use Plans.	6
Figure 4 Habitats Sites in Relation to Draft London Plan Area	65

Tables

Table 1. Distance of Habitats Sites from the GLA and the Authority Within Which it is Located	4
Table 2: Main sources and effects of air pollutants on habitats and species	19
Table 3. Proportion of visitors from boroughs and districts within the zone of influence for Epping Forest	28
Table 4. Screening of Policies	66

Executive Summary

AECOM was appointed by the Greater London Authority (GLA) to assist with a Habitats Regulations Assessment (HRA) of the Draft London Plan.

The legal requirement for an HRA is set out in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

The HRA process is used to determine whether there are any detrimental impacts on Special Conservation Areas (SAC), Special Protection Areas (SPA) or Ramsar sites, (collectively known as Habitats Sites). The process consists of three tasks:

1. Screening for likely significant effects (LSE)
2. Appropriate assessment
3. Avoidance and mitigation

The requirement for tasks two and three to be completed is dependent on the results of the previous task. Assessments carried out should be appropriate to the level of the plan being assessed, with more detailed investigation being undertaken at each subsequent stage of the planning process, for example, more detailed assessment is required at the project level than the plan level.

There is no pre-defined guidance that dictates the physical scope of an HRA of a Plan document. Current guidance suggests that the following Habitats Sites should be included in the scope of an HRA assessment:

- All Habitats Sites within the boundary of the Plan area; and,
- Habitats Sites located outside of the Plan area shown to be linked to development in the Plan through an 'impact pathway' (discussed below).

Impact pathways are routes by which the implementation of a policy can lead to an effect on a Habitats Site.

The assessment identified seven Habitats Sites within the plan area and a further eight Habitats Sites outside of the plan area where potential impact pathways were assessed as being present.

The Draft London Plan contains 52 policies, 46 of which were screened out as having LSEs during Task 1. Six policies were taken forward to Task 2 Appropriate Assessment, these were:

- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
- HN1 Increasing London's housing stock.
- GLE2 Supply of industrial land.
- GLE3 Data Centres.
- PV1 Brownfield first Opportunity Areas (BFOAs).
- PV2 Central Activities Zone (CAZ).

Potential impact pathways considered during appropriate assessment were:

- Recreational activity and urbanization,
- Air pollution, and
- Water resources (quality and quantity)

Following appropriate assessment, it could be concluded that there were no adverse effects on integrity on the majority of the Habitats Sites. The identified impact pathways could have a detrimental impact on some sites where either changes to the Draft London Plan were recommended or additional information was identified as being required. These are listed below.

Air pollution

Epping Forest SAC: A conclusion of “no adverse impacts” could not be determined. It is recommended that air quality modelling be conducted in relation to the SAC in order to facilitate completion of appropriate assessment.

Wimbledon Common SAC: It was recommended that air quality modelling be conducted in relation to the SAC to inform HRAs of future development projects brought forward under the development plan.

No other recommendations were made.

1. Introduction

1.1 Background

- 1.1.1 AECOM was appointed by the Greater London Authority (hereafter referred to as the 'GLA') to assist the Authority in undertaking a Habitat Regulations Assessment of its Draft London Plan (hereafter referred to as the 'Plan'). The Draft London Plan is a Spatial Development Strategy (SDS). The objective of this assessment is to identify any aspects of the Plan that would cause a likely significant effect or adverse effect on the integrity of the National Site Network (NSN), either in isolation or in combination with other plans and projects, and to advise on appropriate policy mechanisms for delivering mitigation where such effects were identified.
- 1.1.2 The NSN comprises Habitats Sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs). Part 1 Schedule 5 of the Planning and Infrastructure Act¹ gives Ramsar sites the same status as Habitats Sites for planning and environmental assessment purposes. The planning period for the Plan is from adoption to 2048. Potential Habitats Sites have been considered but there are no candidate SACs or proposed SPAs within or around London. Within this report Habitats Sites refers to SACs, SPAs and Ramsar sites.

1.2 Legislation

- 1.2.1 The UK left the European Union (EU) on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). While the UK is no longer a member of the EU, a requirement for Habitats Regulations Assessment will continue as set out in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019².
- 1.2.2 The HRA process applies the 'Precautionary Principle'³ to Habitats Sites. Plans and projects can only be permitted after ascertaining that there will be no adverse effect on the integrity of the Habitats Site(s) in question. To ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the Plan or project in question. Figure 1 below sets out the legislative basis for Appropriate Assessment.
- 1.2.3 Plans and projects that are associated with potential adverse impacts on Habitats Sites may still be permitted if there are no reasonable alternatives 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 Available at: <https://www.legislation.gov.uk/ukpga/2020/34>

² These don't replace the 2017 Regulations but are just another set of amendments.

³ The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: "*When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis*".

Conservation of Habitats and Species Regulations 2017 (as amended)

The Regulations state that:

“A competent authority, before deciding to ... 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 ... (either alone or in combination with other plans or project)... must make an appropriate assessment of the implications of the plan or project in view of the site’s conservation objectives... The competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site”.

Figure 1: The legislative basis for Appropriate Assessment

- 1.2.4 Over time, the phrase ‘Habitats Regulations Assessment’ (HRA) has come into wide currency to describe the overall process set out in the 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’.
- 1.2.5 In spring 2018, the ‘Sweetman’ European Court of Justice ruling⁴ clarified that ‘mitigation’ (i.e., measures that are specifically introduced to avoid or reduce a harmful effect on a Habitats Site that would otherwise arise) should not be taken into account when forming a view on Likely Significant Effects. Mitigation should be considered only at the Appropriate Assessment stage. This HRA is cognisant of that ruling.

1.3 Scope of Assessment

- 1.3.1 There is no pre-defined guidance that dictates the physical scope of an HRA of a Plan document. Current guidance⁵ suggests that the following Habitats Sites should be included in the scope of an HRA assessment:
- All Habitats Sites within the boundary of the Plan area; and,
 - Habitats Sites located outside of the Plan area shown to be linked to development in the Plan through an ‘impact pathway’ (discussed below).
- 1.3.2 Generally, it is uncommon for development plans to be deemed to have significant impacts on Habitats Sites situated more than 10km from areas of growth. For example, most core recreational catchments (except for some coastal sites) are under 10km in size, the majority (nearly 70%) of people in employment in the UK travel less than 10 km to work⁶ and the remainder will generally have dispersed across the network by that distance. It should be noted that the presence of a conceivable impact pathway linking a Plan to a Habitats Site does not mean that Likely Significant Effects necessarily exist.
- 1.3.3 Development impacts can extend beyond 10km, particularly where hydrological pathways and surface water catchments are involved, which is why the source-pathway-receptor concept is also used to help determine

⁴ People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

⁵ HM Gov (2023) Habitats regulations assessments: protecting a European site

⁶ [Travel to work, England and Wales - Office for National Statistics](#)

whether there are potential pathways connecting development to Habitats Sites. This takes site-specific sensitivities into account, including issues such as nutrient neutrality or water levels, quantity and flow.

- 1.3.4 Briefly defined, impact pathways are routes by which the implementation of a policy within a Local Plan (or SDS) document can lead to an effect upon a Habitats Site. An example of this would be new residential development resulting in an increased population and thus increased recreational pressure, which could affect Habitats Sites through, for example, disturbance of ground-nesting birds. Guidance from the Ministry of Housing, Communities and Local Government (MHCLG) states that the HRA 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'* (MHCLG, 2006, p.6)⁷.
- 1.3.5 This basic principle has also been reflected in court rulings. The Court of Appeal⁸ has ruled that provided the Council (competent authority) was duly satisfied that proposed mitigation could be 'achieved in practice' to satisfy that the proposed development would have no adverse effect, then this would suffice. This ruling has since been applied to planning permissions (rather than a Plan level document)⁹. In this case the High Court ruled that for *'a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a decision maker is able to conclude that a development will satisfy the requirements of Reg 61 of the Habitats Regulations'*.
- 1.3.6 There are seven Habitats Sites that wholly or partially lie within the Greater London Authority boundary. These are:
- Epping Forest SAC located in the London Borough of Waltham Forest, the London Borough of Redbridge and Epping Forest District; hence partially inside and outside the GLA boundary.
 - Lee Valley SPA and Ramsar site located in the London Borough of Waltham Forest, Epping Forest District and the Borough of Broxbourne; hence partially inside and outside the GLA boundary; and,
 - Richmond Park SAC located within the London Borough of Richmond upon Thames and immediately adjacent to the London Borough of Wandsworth and the Royal Borough of Kingston upon Thames;
 - South West London Waterbodies SPA and Ramsar site located in the London Borough of Hounslow, the Borough of Elmbridge, the Borough of Runnymede, the Borough of Spelthorne and the Royal Borough of Windsor and Maidenhead; hence partially inside and outside the GLA boundary.

⁷ Ministry of Housing, Communities and Local Government. 2006. *Planning for the Protection of European Sites: Appropriate Assessment*. <http://www.communities.gov.uk/index.asp?id=1502244>

⁸No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council Court of Appeal, 17th February 2015

⁹High Court case of R (Devon Wildlife Trust) v Teignbridge District Council, 28 July 2015

- Wimbledon Common SAC located in the London Borough of Wandsworth and the London Borough of Merton and immediately adjacent to the Royal Borough of Kingston upon Thames;

1.3.7 Outside of the Greater London Authority boundary, the following sites are also considered because there is potential for impacts stemming from the Plan to create significant effects:

Table 1. Distance of Habitats Sites from the GLA and the Authority Within Which it is Located

Habitats Site	Distance from the GLA Boundary	Council Authority the Site is Located In.
Burnham Beeches SAC	8.7 km	South Buckinghamshire District Council
Mole Gap to Reigate Escarpment SAC	5.3 km	Mole Valley District Council; and Reigate and Banstead Borough Council.
Thames Basin Heaths SPA	7.5 km	Bracknell Forest Council, Surrey Heath Borough Council, Woking Borough Council, Guildford Borough Council, Rushmoor Borough Council, Waverley Borough Council, Hart District Council
Thames Estuary and Marshes SPA and Ramsar site	8.3 km	Medway District Council, Gravesham Borough Council, Thurrock Borough Council
Thursley, Ash, Pirbright & Chobham SAC	11.0 km	Surrey Heath Borough Council; Guildford Borough Council; Woking Borough Council; and Waverley Borough Council.
Windsor Forest and Great Park SAC	5.7 km	Royal Borough of Windsor and Maidenhead; Bracknell Forest Borough Council; and Runnymede Borough Council
Wormley- Hoddesdonpark Woods SAC	3.7 km	Broxbourne Borough Council; Welwyn Hatfield Borough Council; East Hertfordshire District Council.

1.3.8 Further details of relevant Habitats Site are provided in Appendix C of this report.

2. Methodology

2.1 Introduction to HRA methodology

- 2.1.1 The HRA will be carried out with reference to the general EC guidance on HRA¹⁰ and that of the UK government¹¹.
- 2.1.2 **Figure 2** below outlines the stages of HRA. 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.

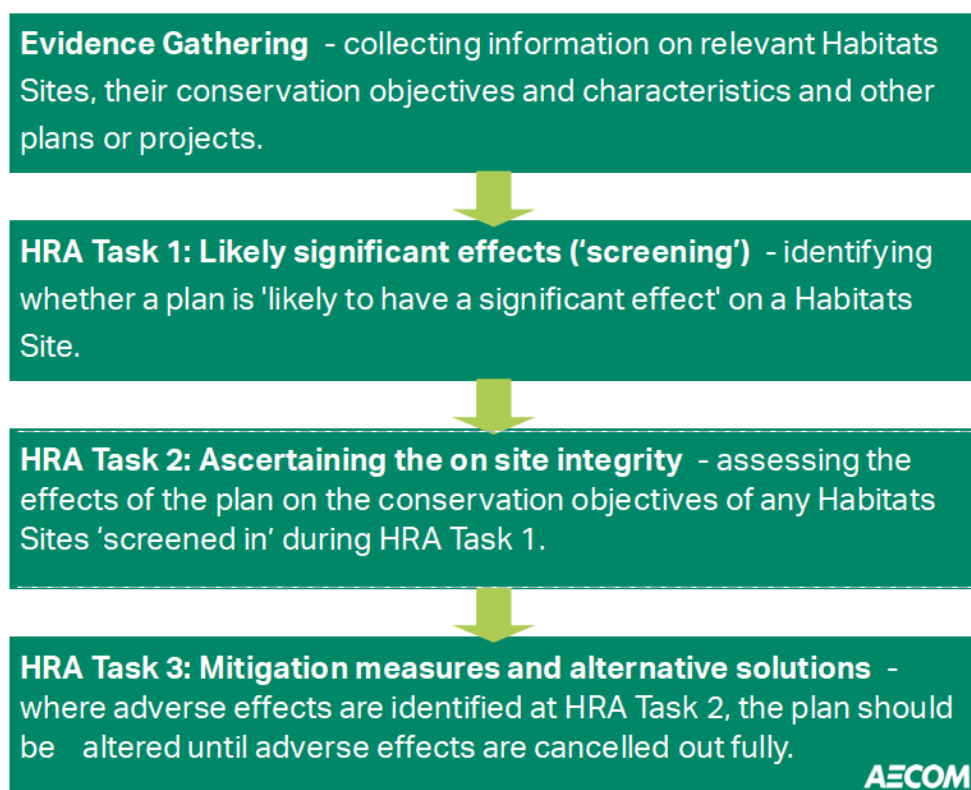


Figure 2: Four Stage Approach to Habitats Regulations Assessment. Source EC, 2021.

2.2 Description of HRA tasks

HRA task 1 – Screening for likely significant effects

- 2.2.1 Following evidence gathering, the first stage of any Habitats Regulations Assessment is the screening for likely significant effects (LSE), essentially a high-level assessment to decide whether the full subsequent stage, known as Appropriate Assessment, is required. The essential question is:

¹⁰ European Commission (2021): Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive.

¹¹ [Habitats regulations assessments: protecting a European site - GOV.UK](#). Note that there is at time of writing (April 2026) a consultation underway on updates to this guidance, but this is regards providing additional detail o improve the guidance rather than changing the HRA process.

“Is the project, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon Habitats sites?”

- 2.2.2 The objective is to filter out those Plans and projects that can, without any detailed appraisal, be concluded to be unlikely to result in any impacts upon Habitats Sites, usually because there is no mechanism for a negative interaction. This stage is undertaken in Chapter 5 of this report and in Appendix B.
- 2.2.3 Government guidance, and Court rulings, has confirmed that the level of detail in the HRA of a plan, whilst meeting the relevant requirements of the Habitats Regulations, should be appropriate to the level (or tier) of plan or project that it addresses. This ‘tiering’ of assessment is summarised in Figure 3.

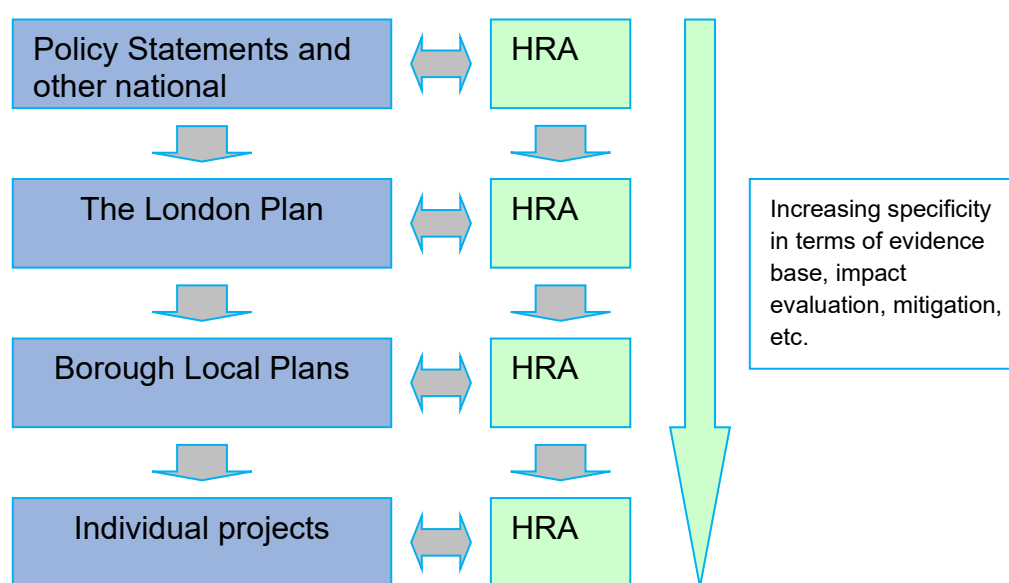


Figure 3: Tiering in HRA of Land Use Plans.

Case law has established that ecological investigation to support plan development should be tiered, with more detailed investigation undertaken at each subsequent stage:

- The Court of Appeal¹² has ruled that provided the competent authority is duly satisfied that mitigation can be achieved in practice (in other words that solutions exist that are likely to be effective) this will suffice to enable a conclusion that the proposed development would have no adverse effect provided there is a lower tier in the process at which the detail of the mitigation can be scrutinised.
- The High Court¹³ has ruled that for ‘a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a

¹² No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council Court of Appeal, 17th February 2015

¹³ High Court case of R (Devon Wildlife Trust) v Teignbridge District Council, 28 July 2015

decision maker is able to conclude that a development will satisfy the requirements of the Habitats Regulations’.

- Advocate-General Kokott¹⁴ has commented that *‘It would ...hardly be proper to require a greater level of detail in preceding plans or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure’.*

2.2.4 Therefore, when discussing the likelihood of significant effects for a high level strategic plan such as the Draft London Plan (SDS), which contains no site allocations and often only a broad indication of growth quantum across London or per borough, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the details of the mitigation measures themselves.

2.2.5 In this report, the screening assessment of likely significant effects is provided for each policy in the Draft London Plan in Appendix B and summarised in Section 4 of this report.

HRA task 2 – Appropriate assessment

2.2.6 Where a conclusion of ‘no Likely Significant Effects’ cannot be drawn, the analysis proceeds to the next stage of HRA known as Appropriate Assessment (AA). Case law has clarified that ‘Appropriate Assessment’ is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to AA compared to the screening stage.

2.2.7 By virtue of the fact that it follows screening for LSE, there is a clear implication that the analysis will be more detailed than undertaken at the previous stage. One of the key considerations during AA is whether there is available mitigation that would entirely address the potential effect. In practice, the AA would take any proposed policies or identified and potential sites that could not be dismissed following the high-level screening and assess the potential for an effect in more detail, with a view to concluding whether there would be a potential for an adverse effect on site integrity (in other words, disruption of the coherent structure and function of the Habitats Site(s)). A decision by the European Court of Justice¹⁵ concluded that measures intended to avoid or reduce the harmful effects of a proposed Plan or project on a Habitats Site may no longer be considered by competent authorities at the screening for LSEs stage of HRA. That ruling has been taken into account in producing this HRA.

2.2.8 Also, in 2018, the Holohan ruling¹⁶ was handed down by the European Court of Justice. Among other provisions paragraph 39 of the ruling states that *‘As regards other habitat types or species, which are present on the site, but for*

¹⁴ Opinion of Advocate General Kokott, 9th June 2005, Case C-6/04. Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland, paragraph 49.

<http://curia.europa.eu/juris/document/document.jsf?docid=58359&doclang=EN>

¹⁵ People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

¹⁶ Case C-461/17

which that site has not been listed, and with respect to habitat types and species located outside that site, ... typical habitats or species must be included in the appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area [emphasis added]. Due account of this decision has been given in this HRA.

HRA task 3 – Avoidance and mitigation

- 2.2.9 Where necessary, measures are recommended for incorporation into the Plan in order to mitigate and/or avoid adverse effects on Habitats Sites. There is considerable precedent for the level of detail a Local Plan (or SDS) document should include regarding mitigation for impact pathways on Habitats Sites (e.g., recreational pressure). The implication of this precedent is that it is not necessary for all measures to be fully developed prior to adoption of the Plan, but the Plan must provide an adequate policy framework within which these measures can be delivered.
- 2.2.10 When discussing mitigation for a plan, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the details of the mitigation measures themselves, since a Local Plan (or SDS) document is a high-level policy document.
- 2.2.11 In any Local Plan (or SDS), there are numerous policies for which there is a limit to the degree of assessment that is possible at the Plan level. This is because either:
- The policy in question does not contain any specifics as to what will be delivered or where, and so cannot be assessed in detail at the Plan level. In these cases, the Appropriate Assessment focuses on precautionary mitigation that can be included in the plan to ensure that whatever proposals come forward will not result in adverse effects on integrity; or
 - The nature of potential impacts (e.g. visual and noise disturbance arising from construction or loss of functionally linked habitat) is related to how the development will be designed and constructed and therefore cannot be assessed in detail at the plan level. In these instances, the Appropriate Assessment focuses on available mitigation measures, the extent to which such measures would be achievable and effective, and whether an adequate protective framework exists to ensure that the policy would not lead to an adverse effect on the integrity of any internationally designated sites.
- 2.2.12 In these instances, the advice of Advocate-General Kokott¹⁷ is also worth considering. She commented that: *'It would ...hardly be proper to require a greater level of detail in preceding plans [rather than planning applications] or the abolition of multi-stage planning and approval procedures so that the assessment of implications can be concentrated on one point in the procedure. Rather, adverse effects on areas of conservation must be assessed at every relevant stage of the procedure **to the extent possible on the basis of the precision of the plan. This assessment is to be***

¹⁷ Opinion of Advocate General Kokott, 9th June 2005, Case C-6/04. Commission of the European Communities v United Kingdom of Great Britain and Northern Ireland, paragraph 49
<http://curia.europa.eu/juris/document/document.jsf?docid=58359&doclang=EN>

updated with increasing specificity in subsequent stages of the procedure. [emphasis added].

2.3 In-combination plans

- 2.3.1 In practice, in combination assessment is of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential. 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, and commercial/industrial development proposed within the Greater London Authority area and authorities neighbouring the Greater London Authority area over the lifetime of the Plan as follows. Individual plans are only discussed in the analysis in each chapter where relevant.

Authorities within the Greater London Authority boundary

- London Borough of Barking and Dagenham: Local Plan 2020 -2037
- London Borough of Barnet: Local Plan 2021 – 2036
- London Borough of Bexley: Local Plan Adopted April 2023
- London Borough of Brent: Local Plan 2019 – 2041
- London Borough of Bromley: Local Plan 2019 (Currently under review)
- London Borough of Camden: Local Plan 2017 (new plan currently under examination)
- London Borough of Croydon: Local Plan: 2018 (revised plan currently under examination)
- London Borough of Ealing: Local Plan submitted November 2024 (Regulation 22)
- London Borough of Enfield: Local Plan 2019 – 2041 (new plan currently under examination)
- Royal Borough of Greenwich: Core Strategy 2014 (currently developing a new Local Plan)
- London Borough of Hackney: Local Plan 2033
- London Borough of Hammersmith and Fulham: Local Plan 2018 (currently developing a new Local Plan)
- London Borough of Haringey: Local Plan: Strategic Policies 2017 (currently developing a new Local Plan)
- London Borough of Harrow: Local Plan 2021 – 2041
- London Borough of Havering: Local Plan 2016 – 2031 (currently developing a new Local Plan)
- London Borough of Hillingdon: Local Plan Part 1 2012, Part 2 2019 (currently developing a new Local Plan)

- London Borough of Hounslow: Local Plan 2015 – 2030 (new plan currently under examination)
- London Borough of Islington: Local Plan Adopted Sep 2023
- Royal Borough of Kensington and Chelsea: Local Plan Adopted Jul 2024
- Royal Borough of Kingston upon Thames: Local Plan Adopted 2024
- London Borough of Lambeth: Local Plan 2020 – 2035
- London Borough of Lewisham: Local Plan Adopted Jul 2025
- London Borough of Merton: Local Plan Adopted Nov 2024
- London Borough of Newham: Local Plan 2018 (new plan currently under examination)
- London Borough of Redbridge: Local Plan 2015 – 2030 (currently building evidence base for future plan)
- London Borough of Richmond upon Thames: Local Plan 2024 – 2039
- London Borough of Southwark: Local Plan 2022
- London Borough of Sutton: Local Plan 2018 (currently developing a new Local Plan)
- London Borough of Tower Hamlets: Local Plan 2031 (new plan currently under examination)
- London Borough of Waltham Forest: Local Plan Part 1: Shaping the Borough 2020 – 2035
- London Borough of Wandsworth: Local Plan 2023 – 2038
- City of Westminster: City Plan 2019 – 2040
- City of London: City Plan 2040 (awaiting adoption)
- The Old Oak and Park Royal Development Corporation (ODPC) Local Plan. Adopted June 2022
- East London Joint Waste Plan 2012 (new plan currently under examination)
- North London Waste Plan 2022
- South London Waste Plan 2022 – 2037
- Joint West London Waste Plan 2015
- Mayor's Transport Strategy. Published 2018.
- London Environment Strategy. Published 2018.
- The London Housing Strategy. Adopted 2018.
- The London Growth Plan. Published 2025.

- Thames Water draft Water Resource Management Plan 2024
- Essex and Suffolk Water's Water Resource Management Plan 2024
- Sutton and East Surrey Water's Water Resource Management Plan 2025 - 2075
- Affinity Water's Water Resource Management Plan 2024

Authorities neighbouring to the Greater London Authority boundary or otherwise relevant

- Kent County Council: The Minerals and Waste Plan (2024 to 2039); and Local Transport Plan 5 (2024)
- Surrey County Council: Surrey Waste Plan (2020); Surrey Minerals Plan (2011); Intem Local Strategic Statement for Surrey 2016-2031; and Surrey Local Transport Plan (2024).
- Buckinghamshire County Council: Minerals and Waste Local Plan (2016 – 2036)
- Hertfordshire County Council: Hertfordshire Minerals Local Plan 2002 to 2016; and Hertfordshire Waste Development Framework (2011-2026); and Hertfordshire Local Transport Plan 4 (2018 – 2031)
- Essex County Council: Essex Minerals Local Plan (adopted 2014); Essex and Southend Waste Local Plan (adopted 2017)
- Bracknell Forest Borough Council: Bracknell Forest Local Plan 2020 – 2037
- Broxbourne Borough Council: Broxbourne Local Plan 2018 – 2033
- Buckinghamshire County Council: Local Plan Draft Part A Spatial Strategy 2025
- Dartford Borough Council: The Dartford Plan to 2037
- Elmbridge Borough Council: Core Strategy 2011 (currently developing a new Local Plan)
- Epping Forest District Council: Epping Forest District Local Plan 2011 – 2033
- Mole Valley District Council: Mole Valley Local Plan 2020 – 2039
- Reigate and Banstead Borough Council: Reigate and Banstead Local Plan Core Strategy (reviewed 2024)
- Runnymede Borough Council: 2030 Local Plan
- Sevenoaks District Council: Sevenoaks District Council Core Strategy (adopted 2011), Local Plan undergoing Examination (currently developing a new Local Plan)
- Slough Borough Council: Slough Local Development Framework Core Strategy 2006 to 2026 DPD (emerging new Local Plan 2025).

- Spelthorne Borough Council: Local Plan – March 2026
- Tandridge District Council: Tandridge District Core 2024 – 2044
- Three Rivers District Council: Local development framework Core Strategy (adopted 2011) (currently developing a new Local Plan)
- Thurrock Council: Thurrock Local Development Framework Core Strategy and Policies for Management of Development (as amended) (adopted 2015), (currently developing a new Local Plan)
- Watford Borough Council: Watford Local Plan 2021 – 2038
- Welwyn Hatfield Borough Council: Welwyn Hatfield Local Plan 2023
- Royal Borough of Windsor and Maidenhead: Borough Local Plan 2013 – 2033
- Wokingham Borough Council: Wokingham Borough Local Plan Update 2023 – 2040 (Proposed submission plan)

National infrastructure planning projects for consideration

- Teddington Direct River Abstraction. This project is at the pre-application stage with Statutory Consultation in 2025. The application is expected to be submitted before end of 2026.
- Potential expansion of Heathrow Airport (third runway). This project is in the pre-application phase of a Development Consent Order. stage. The application is expected to be submitted in December 2027.

2.3.2 It should be noted that, while their broad potential effects are considered, this assessment does not undertake full HRA of each of these planning documents. Instead, existing HRAs conducted for surrounding LPAs were drawn upon.

2.4 Quality assurance

- 2.4.1 This report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.
- 2.4.2 All AECOM Ecologists working on this project are members (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2025)¹⁸

¹⁸ CIEEM (2025) Code of Professional Conduct available at cieem.net/wp-content/uploads/2019/02/Code-of-Professional-Conduct-April-2025.pdf

3. Introduction to impact pathways

3.1.1 In carrying out an HRA it is important to determine the various ways in which land use plans can impact on internationally designated sites by following the pathways along which development can be connected with internationally designated sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with a development can lead to an effect upon an internationally designated site. Following screening of the Plan (undertaken in Appendix B), the following impact pathways are the focus of this document:

- Impacts from urbanisation and recreational activities (including disturbance and abrasion),
- Atmospheric pollution,
- Water abstraction, and
- Water quality.

3.1.2 The following sections provide a general introduction to these pathways. More specific discussion of each pathway as it relates to each Habitats Site (including site-specific evidence) is discussed in later chapters.

3.2 Recreational activities and urbanisation

Recreational pressure

3.2.1 Recreational use of an internationally designated site has potential to:

- Cause damage through mechanical/ abrasive damage and nutrient enrichment,
- Cause disturbance to sensitive species, particularly ground-nesting birds and wintering wildfowl, and
- Prevent appropriate management or exacerbate existing management difficulties.

3.2.2 Studies across a range of species have shown that the effects from recreation can be complex.

Mechanical/abrasive damage and nutrient enrichment

3.2.3 Most types of terrestrial internationally designated sites 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 and move more erratically. Motorcycle scrambling and off-road vehicle use can cause serious erosion, as well as disturbance to sensitive species.

3.2.4 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)¹⁹ 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)²⁰ conducted experimental off-track trampling in 18 closed forest, dwarf scrub and meadow and 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)²¹ 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)²² 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 disturbance but recovered rapidly. Higher trampling intensities caused more disturbance.

3.2.5 The total volume of dog faeces deposited on sites can be surprisingly large. For example, at Burnham Beeches National Nature Reserve over one year,

¹⁹ 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

²⁰ 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

²¹ 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

²² 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

Barnard²³ estimated the total amounts of urine and faeces from dogs as 30,000 litres and 60 tonnes respectively.

Disturbance

- 3.2.6 Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding²⁴. Disturbance therefore risks increasing energetic output while reducing energetic input, which can adversely affect the 'condition' and ultimately the survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they have to sustain a greater number of birds²⁵.
- 3.2.7 The potential for disturbance may be less in winter than in summer, in that there are often a smaller number of recreational users. In addition, the consequences of disturbance at a population level may be reduced because birds are not breeding. However, winter activity can still cause important disturbance, especially as birds are particularly vulnerable at this time of year due to food shortages, such that disturbance which results in abandonment of suitable feeding areas through disturbance can have severe consequences. Several empirical studies have, through correlative analysis, demonstrated that out-of-season (October-March) recreational activity can result in quantifiable disturbance:
- Underhill et al²⁶ counted waterfowl and all disturbance events on 54 water bodies within the South West London Water bodies Special Protection Area and clearly correlated disturbance from recreational activity 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 & Warrington²⁷ 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 displacement of birds resulting from greater recreational activity on surrounding water bodies at weekends relative to week days.
 - Tuite et al²⁸ 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 on inland water bodies shoveler was one of the most sensitive species to disturbance. The greatest impact on winter wildfowl numbers was associated with sailing/windsurfing and rowing.

²³ Barnard, A. (2003) Getting the Facts - Dog Walking and Visitor Number Surveys at Burnham Beeches and their Implications for the Management Process. *Countryside Recreation*, 11, 16 - 19

²⁴ Riddington, R. et al. 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* 43:269-279

²⁵ Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72

²⁶ 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

²⁷ Evans, D.M. & Warrington, S. 1997. The effects of recreational disturbance on wintering waterbirds on a mature gravel pit lake near London. *International Journal of Environmental Studies* 53: 167-182

²⁸ 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

- Pease et al²⁹ investigated the responses of seven species of dabbling ducks to a range of potential causes of disturbance, ranging from pedestrians to vehicle movements. They determined that walking and biking created greater disturbance than vehicles and that gadwall were among the most sensitive of the species studied.
- In a three-year study of wetland birds at the Stour and Orwell SPA, Ravenscroft³⁰ found that walkers, boats and dogs were the most regular source of disturbance. Despite this, the greatest responses came from relatively infrequent events, such as gun shots and aircraft noise. Birds seemed to habituate to frequent 'benign' events such as vehicles, sailing and horses, but there was evidence that apparent habituation to more disruptive events related to reduced bird numbers – i.e. birds were avoiding the most frequently disturbed areas. Disturbance was greatest at high tide and on the Orwell, but birds on the Stour showed greatest sensitivity.

- 3.2.8 A number of studies have shown that birds are affected more by dogs and people with dogs than by people alone, with birds flushing more readily, more frequently, at greater distances and for longer. In addition, dogs, rather than people, tend to be the cause of many management difficulties, notably by worrying grazing animals, and can cause eutrophication near paths. Nutrient-poor habitats such as heathland are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces³¹.
- 3.2.9 Underhill-Day³² summarises the results of visitor studies that have collected data on the use of semi-natural habitat by dogs. In surveys where 100 observations or more were reported, the mean percentage of visitors who were accompanied by dogs was 54.0%.
- 3.2.10 However the outcomes of many of these studies need to be treated with care. For instance, the effect of disturbance is not necessarily correlated with the impact of disturbance, i.e. the most easily disturbed species are not necessarily those that will suffer the greatest impacts. It has been shown that, in some cases, the most easily disturbed birds simply move to other feeding sites, whilst others may remain (possibly due to an absence of alternative sites) and thus suffer greater impacts on their population³³. A literature review undertaken for the RSPB³⁴ also urges caution when extrapolating the results of one disturbance study because responses differ between species and the response of one species may differ according to local environmental conditions. These facts have to be taken into account when attempting to predict the impacts of future recreational pressure on internationally designated sites.

²⁹ Pease, M.L., Rose, R.K. & Butler, M.J. 2005. Effects of human disturbances on the behavior of wintering ducks. *Wildlife Society Bulletin* 33 (1): 103-112.

³⁰ Ravenscroft, N. (2005) Pilot study into disturbance of waders and wildfowl on the Stour-Orwell SPA: analysis of 2004/05 data. Era report 44, Report to Suffolk Coast & Heaths Unit.

³¹ Shaw, P.J.A., K. Lankey and S.A. Hollingham (1995) – Impacts of trampling and dog fouling on vegetation and soil conditions on Headley Heath. *The London Naturalist*, 74, 77-82.

³² Underhill-Day, J.C. (2005). A literature review of urban effects on lowland heaths and their wildlife. Natural England Research Report 623.

³³ Gill et al. (2001) - Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation*, 97, 265-268

³⁴ Woodfield & Langston (2004) - Literature review on the impact on bird population of disturbance due to human access on foot. *RSPB research report* No. 9.

- 3.2.11 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 (such as those often associated with construction activities). 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.
- 3.2.12 The factors that influence a species response to a disturbance are numerous, but the three key factors are species sensitivity, proximity of disturbance sources and timing/duration of the potentially disturbing activity.
- 3.2.13 It should be emphasised that recreational use is not inevitably a problem. Many internationally designated sites are also nature reserves managed for conservation and public appreciation of nature.
- 3.2.14 Epping Forest SAC, Lee Valley SPA and Ramsar site Richmond Park SAC, Wimbledon Common SAC and South West London Waterbodies SPA and Ramsar site are all located within the Greater London Authority boundary and as such are theoretically vulnerable to the effects of recreational pressure and/ or disturbances from construction activities resulting from development within the Greater London Authority boundary.
- 3.2.15 Furthermore, the following Habitats Sites located outside of the Greater London Authority boundary are located within sufficiently close proximity to the Authority that they could also be theoretically vulnerable to the effects of recreational pressure and/ or disturbances resulting from development within the Greater London Authority boundary:
- Wormley-Hoddesdonpark Woods SAC
 - Mole Gap to Reigate Escarpment SAC
- 3.2.16 It is therefore necessary to perform an initial screening exercise to determine whether the Draft London Plan contains policy measures that could lead to a likely significant effect, either alone or 'in combination' with other plans and projects, through recreational pressure, on these internationally designated sites.

Urbanisation

- 3.2.17 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 non-native species with garden waste. Non-native species can in some situations, lead to negative interactions with habitats or species for which internationally designated sites may be designated. Garden waste results in the introduction of invasive non-native species precisely because it is the 'troublesome and over-exuberant' garden plants that are typically

thrown out³⁵. Non-native 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 period³⁶. A large proportion of domestic cats are found in urban situations, and increasing urbanisation is likely to lead to increased cat predation.

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

3.2.19 After extensive research, the Thames Basin Heaths Joint Strategic Partnership Board published the Thames Basin Heaths Special Protection Area Delivery Framework³⁷ 'Delivery Plan' which made recommendations for accommodating development while also protecting the interest features of the internationally designated 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 pressure expanded to 5km (as this was determined from visitor surveys to be the principal recreational catchment for this internationally designated 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 over which 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.

3.2.20 As such, screening is undertaken to determine whether the Draft London Plan could lead to likely significant effects upon Lee Valley SPA and Ramsar site, Epping Forest SAC, Richmond Park SAC, Wimbledon Common SAC and South West London Waterbodies SPA and Ramsar site either alone or 'in combination' with other plans and projects, through impacts of urbanisation.

3.3 Atmospheric pollution

3.3.1 The main pollutants of concern for Habitats Sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂). Ammonia can have a directly toxic effect upon vegetation. In addition, greater NO_x 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.

³⁵ Gilbert, O. & Bevan, D. 1997. The effect of urbanisation on ancient woodlands. *British Wildlife* 8: 213-218.

³⁶ Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174-188

³⁷ Available at: www.bracknell-forest.gov.uk/sites/default/files/2021-08/thames-basin-heaths-spa-delivery-framework.pdf [Accessed 02/06/2026]

Table 2: Main sources and effects of air pollutants on habitats and species

Pollutant	Source	Effects on habitats and species
Acid deposition	SO ₂ , NO _x 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 ₃)	Ammonia is released following decomposition and volatilisation of animal wastes, and from some vehicle emissions. 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 ₂ and NO _x emissions to produce fine ammonium (NH ₄ ⁺) - containing aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.)	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH ₃ is rapidly deposited, some of the most acute problems of NH ₃ deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides NO _x	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 ₃), nitrogen dioxide (NO ₂) and nitric acid (HNO ₃)) can lead to both soil and freshwater acidification. In addition, NO _x 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 _x and NH ₃ 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 ₃)	A secondary pollutant generated by photochemical reactions from NO _x 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 ₃ 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 ₂	Main sources of SO ₂ emissions are electricity generation, industry and domestic fuel combustion. May also arise from shipping and increased atmospheric concentrations in busy ports. Total SO ₂ emissions have decreased substantially in the UK since the 1980s.	Wet and dry deposition of SO ₂ 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.

- 3.3.2 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 and at a local level traffic also making notable contributions. NO_x 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_x (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison³⁸. Emissions of NO_x could therefore be

³⁸ 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>

reasonably expected to increase as a result of greater vehicle use as an indirect effect of the plan.

3.3.3 Natural England guidance³⁹ details a five step approach to screening for Likely Significant Effects for traffic emissions, summarised as follows:

- Step one: Does the proposal or plan give rise to emissions
- Step two: Are the qualifying features of the sites within 200m of a road
- Step three: Could the sensitive qualifying features of the site be exposed to emissions.
- Step four: Application of screening thresholds (where the pathway has not been screened out in the previous three steps)
- Step five: Advise on the need for Appropriate Assessment where thresholds are exceeded, either alone or in-combination

3.3.4 Habitats Sites beyond 200m from a significant road can therefore be screened out from requiring appropriate assessment.

Trends in vehicle emissions

3.3.5 Data from the UK Government⁴⁰ shows an 80% decrease in NOx emissions between 1990 and 2024, driven by a decline in coal use and by the modernisation of the transport fleet. Road transport contributed 30% emissions of NOx in 2024.

3.3.6 Ongoing national initiatives to reduce NOx emissions from transport include:

- Zero Emission Vehicle (ZEV) Mandate: Setting binding sales targets that require manufacturers to phase out the production of traditional petrol and diesel vehicles in favor of zero-emission alternatives⁴¹.
- Clean Air Zones (CAZs) and Low Emission Zones (LEZs): Localized city interventions that charge or restrict access to the most polluting vehicles, forcing upgrades to cleaner models.
- Retrofitting & Public Transport: Funding programs to fit older diesel fleets (like buses and HGVs) with Selective Catalytic Reduction (SCR) technology, which can reduce NOx by up to (90%), while heavily investing in walking and cycling infrastructure.

3.3.7 Within the capital “Travel in London 2025”⁴² sets the existing context, stating that: *‘the proportion of all trips made by walking, cycling or public transport) for all travel in London is provisionally estimated at 63.4 per cent in 2024, compared to 63.0 per cent in 2023... Road traffic in London overall grew by 1.2 per cent in 2024. However, vehicle kilometres driven in London were still four per cent lower than before the pandemic (2019). All available datasets*

³⁹ Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations June 2018

⁴⁰ Emissions of air pollutants in the UK – Nitrogen oxides (NOx) Updated 2026 Available at <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox> [Accessed 02/06/2026]

⁴¹ Zero Emission Vehicle Mandate and CO₂ Regulations 2023

⁴² Travel in London 2025 (overview) Available At: <https://tfl.gov.uk/cdn/static/cms/documents/travel-in-london-2025-annual-overview-acc.pdf> [accessed 27/03/2026]

indicate that traffic in London was broadly stable over the last decade, and traffic growth in London in 2024 was lower than for Great Britain as a whole (excluding London), where vehicle kilometres increased by 1.7 per cent...’.

- 3.3.8 However, the long-term trend is an improving one due to the high-quality public transport alternatives available compared to other areas of England, and the various initiatives introduced to drive improvements in vehicle emissions, use of non-car transport modes and electrification of the London vehicle fleet. The London-wide Ultra Low Emission Zone One Year Report⁴³ reported that *‘average annual roadside NO₂ concentrations during 2024 were 57 per cent lower than in 2016 in inner London and 50 per cent lower in outer London.’*
- 3.3.9 Ongoing initiatives in London to reduce emissions include:
- The progressive electrification of London’s vehicle fleet.
 - Expanding the electric vehicle charging infrastructure.
 - Expanding the zero-emission bus fleet.
- 3.3.10 Among the London actions in the Mayor’s Transport Strategy over the duration of this Draft London Plan period (i.e. commencing over the period to 2029/30) are zero emission capable axis, Town centre Zero Emission Zones, Electric single-deck buses and bus charging infrastructure, supporting low emission freight, delivery of 2000 electric vehicle charging points, further investment in charging and refuelling infrastructure, 15 hydrogen fuelling stations installed in and around London, all new taxis zero emission capable, all new private hire vehicles zero emission capable, a pan-London approach to parking charges for zero emission vehicles, keep Congestion Charge under review and support borough measures, and an Extended Ultra Low Emissions Zone⁴⁴.
- 3.3.11 With specific regard to the effects of the Mayor’s Transport Strategy on the pollutant of greatest relevance to this analysis (oxides of nitrogen or NO_x) the Mayor’s Transport Strategy Supporting Evidence Outcomes Summary Report⁴⁵ states that *‘By 2041, the number of trips made in London on an average day is expected to rise to 32 million, 5 million more than today. With the committed programme of investment but without the interventions proposed in the MTS [emphasis added], the sustainable mode share is expected to rise from 64 per cent to 70 per cent. ...NO_x emissions would reduce significantly as a result of the implementation of the Ultra-Low Emission Zone⁴⁶...’* It then goes on to conclude that following implementation on the MTS *‘... by 2041, travel will have risen by around a quarter but car travel will have fallen by around a third. There would be at least 3 million fewer car trips per day (compared to 2015) and 250,000 fewer cars owned in*

⁴³ Available at: <https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/environment-and-climate-change-publications/london-wide-ultra-low-emission-zone-one-year-report> [Accessed 27/03/2026]

⁴⁴ Source: TfL (2018), Mayor’s Transport Strategy. Available at: www.london.gov.uk/what-we-do/transport/our-vision-transport/draft-mayors-transport-strategy-2017

⁴⁵ <https://tfl.gov.uk/corporate/publications-and-reports/travel-in-london-reports?intcmp=3120> [accessed 27/10/2017]

⁴⁶ ⁴⁶ Page 27 of the main report adds that in the Reference Case *‘Emissions of NO_x reduce in the short term as Euro 6 / VI vehicles are adopted. Further reductions in emissions occur as taxis convert to zero emission capable (ZEC) vehicles and electric and hydrogen buses are deployed’*. Page 45 of the main report adds that *‘There will also be ‘knock on’ benefits [of the Ultra-Low Emission Zone] outside central London as a result of cleaner vehicles passing through inner and outer London to access central London’*.

London. General traffic would fall by 10 to 15 per cent, a reduction of 6 million kilometres...'

- 3.3.12 It concludes that *'... with the actions identified in this strategy, a sustainable mode share of 80 per cent can be achieved, meaning that eight in ten journeys made in London will be made on foot, by bicycle or by public transport and just two in ten by car, taxi, private hire vehicle or motorcycle'* and that *'Traffic reduction and improvements in vehicle technology will deliver large scale reductions of 94 percent in NOx'*. This forecast large scale reduction in NOx across London is thus the context for the delivery of the growth set out in the Draft London Plan since it allows for the projected population and employment growth across London in the Draft London Plan and beyond.
- 3.3.13 The air quality aim of the London Environment Strategy is that *'London will have the best air quality of any major world city by 2050...'* Among the Strategy's air quality actions are *'The Mayor will: ...clean up London's transport system and phase out fossil fuels including diesel, making the whole bus fleet zero emission by 2037 at the latest and introducing the Ultra Low Emission Zone by 2019 to deter the most polluting vehicles from entering London'* and the Mayor will *'... consider introducing a new Air Quality Positive standard so new building developments contribute to cleaning London's air.'*
- 3.3.14 The NOx (and thus nitrogen deposition) trend in London has thus reduced considerably due to the aforementioned interventions and is expected to fall further. For example, the "London-wide Ultra Low Emission Zone One Year Report"⁴⁷ estimated that roadside NO₂ concentrations were up to 4.8% lower than they would have been without the London-wide ULEZ expansion. A decline in NOx emissions will correlate with a net reduction in oxidised nitrogen deposition to Habitats Sites, particularly within 200m of roads, which are the main areas of relevance to this report. Furthermore, electrification of the vehicle fleet is expected to continue apace to 2050, which will result in reductions in both NOx and ammonia emissions (and thus nitrogen deposition) from traffic. The UK Department for Transport (DfT) published *'Decarbonising Transport: A Better, Greener Britain'* (DfT, 2021⁴⁸) to outline the national strategic plans to decarbonise Scope 1; i.e. direct exhaust, emissions from road transport. A subsequent publication of the *'additional information on assumptions used to develop decarbonising transport scenarios'* (DfT, 2023⁴⁹) included the data used to inform the DfT projections.
- 3.3.15 The DfT *'Low-ambition Decarb Fleet'* represents a precautionary, but realistic, outcome. This scenario, as modelled by DfT, includes a 'medium ambition' policy scenario for reduction of emissions, predominantly comprising regulated sales of vehicles to achieve 70% ULEV (ultra-low emission vehicle) sales by 2030, plus additional fiscal incentives to support ULEV, and the zero-emissions bus scheme. Furthermore, it should be

⁴⁷ Published 2025 Available at: <https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/environment-and-climate-change-publications/london-wide-ultra-low-emission-zone-one-year-report> [Accessed 02/06/2026]

⁴⁸ DfT (2021) Decarbonising Transport A Better, Greener Britain https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009448/decarbonising-transport-a-better-greener-britain.pdf

⁴⁹ DfT (2023) policy paper Additional information on assumptions used to develop decarbonising transport scenarios <https://www.gov.uk/government/publications/transport-decarbonisation-plan/additional-information-on-assumptions-used-to-develop-decarbonising-transport-scenarios>

recognised the UK government has stated policy to implement an end to the sale of new ICE (i.e. petrol and diesel) by 2030 (pulled back from 2035), and to maintain the end to the sale of new hybridised vehicles by 2035. This latest ambition was not included in the data presented above and it is likely that, in reality, a greater proportion of the km travelled will be zero-emission than assumed in this methodology.

- 3.3.16 Taking into account both national strategies and the Mayor's strategies, the trend is one of improvement over time. This will at least partially (and potentially more than) offset increases in traffic (and hence emissions) caused by new development.

3.4 Water abstraction

- 3.4.1 The Greater London Authority lies within the Affinity Water (Central region, WRZ 5) and Thames Water (London Region) supply areas. Approximately 60% of the Central region's water supply comes from groundwater sources (chalk and gravel aquifers) and 40% comes from surface water sources and imports from neighbouring water companies. Water is also exported to neighbouring water companies⁵⁰.
- 3.4.2 As such, screening is undertaken to determine whether the Draft London Plan could lead to likely significant effects upon Habitats Sites both within and outside of the Authority boundary either alone or 'in combination' with other plans and projects as a result of increased water demand.

3.5 Water quality

- 3.5.1 The quality of the water that feeds Habitats Sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:
- 3.5.2 At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour.
- Eutrophication, the enrichment of plant nutrients in water, increases plant growth and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In the marine environment, nitrogen is the limiting plant nutrient and so eutrophication is associated with discharges containing available nitrogen.
 - Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.

⁵⁰ Affinity Water (2014) Final Water Resource management Plan, 2015-2040.

- 3.5.3 Sewage and some industrial effluent discharges contribute to increased nutrients in the Habitats Sites and in particular to phosphate levels in watercourses.
- 3.5.4 As such, screening is undertaken to determine whether the Draft London Plan could lead to likely significant effects upon Habitats Sites both within and outside of the Authority boundary either alone or 'in combination' with other plans and projects as a result of reduced water quality.

4. Likely significant effects

- 4.1.1 Appendix B presents an analysis of every policy in the Draft London Plan with regard to whether likely significant effects would result. Most of the policies in the Draft London Plan could be concluded not to pose risk of likely significant effects following this initial analysis. This was because those policies inherently presented no pathway of impact (e.g. policy GHR6 Trees, biodiversity and geodiversity), or confined themselves to setting out general principles, often without indicating a specific quantum of growth (e.g. MBUL7 London's Heritage).
- 4.1.2 The Draft London Plan does not contain site allocations (which are properly provided within the Local Plans of the individual London Boroughs). It does, however, identify key growth areas and set out policies which will directly result in new residential and economic developments, such policies are included as a precautionary measure.
- 4.1.3 Policies which are intended to increase residential development are included on the same basis that windfall development is included for consideration in Local Plans.
- 4.1.4 The following policies are taken forward for appropriate assessment:
- MBUL1 Spatial Strategy
 - HN1 Increasing London's housing stock
 - GLE2 Supply of industrial land
 - GLE3 Data Centres
 - PV1 Brownfield first Opportunity Areas (BFOAs)
 - PV2 Central Activities Zone (CAZ)
- 4.1.5 The remainder of this document therefore focusses on the implications of housing growth across London as set out in the Draft London Plan but also factors in consideration of expected employment growth over the same period even though there are no specific borough targets associated with a given policy. Employment growth is particularly relevant when considering air quality due to its effect on journeys to work. The appropriate assessment is presented with a chapter discussing each Habitats Site in London and a final chapter examining implications for Habitats Sites outside London.

- 4.1.6 Assessment is made at the level appropriate for this plan, it should be noted that the Local Plans produced by the London boroughs and individual development projects are also subject to the HRA process.

5. Appropriate Assessment: Epping Forest SAC

5.1 Introduction

- 5.1.1 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.
- 5.1.2 Seventy percent of this 1,600 hectare site consists of broadleaved deciduous woodland, and it is one of only a few remaining large-scale examples of ancient wood-pasture in lowland Britain.
- 5.1.3 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Based on the information currently available on the Draft London Plan, the adopted London Plan and its HRA and the adopted Epping Forest Local Plan and its HRA, the impact pathways assessed in respect of this plan are:
- Recreational activity and urbanisation
 - Air pollution: risk of atmospheric nitrogen deposition.
- 5.1.4 The qualifying features listed in the SIP for the site⁵¹ as being impacted by these pathways are H4010 Wet heathland with cross-leaved heath, H9120 Beech forests on acid soils and H4030 European dry heaths.

5.2 Recreational activity and urbanisation

Summary of pathway and baseline

- 5.2.1 Epping Forest SAC receives a great many visits per year (estimated at over 4 million) and previous discussions with the Corporation of London (who manage Epping Forest) have identified long-standing concerns about increasing recreational use of the forest resulting in damage to its interest features. A programme of detailed formal visitor surveys has been undertaken in recent years.
- 5.2.2 In July 2018 Epping Forest District Council and its partners in the West Essex/East Herts Housing Market Area published the results of a 2017 visitor survey undertaken of the SAC. Natural England confirmed to Epping Forest District Council and its partners in August 2017 that the 75th percentile (i.e. the zone within which 75% of visitors derive) should define the 'core catchment' and thus the zone within which net new housing will need to be mitigated in some form. Based on the data from the 2017 visitor survey this is 6.2km. The visitor distribution is not evenly spread across this zone; within Essex/Hertfordshire it is clear that the majority of visitors derive from within

⁵¹ Available at: <https://publications.naturalengland.org.uk/file/5748364937265152> [Accessed 03/06/2026]

3km of the SAC. However, visitor origins in London are more dispersed and play a major role in pulling out the 75th percentile distance to 6.2km. Since that zone crosses numerous London authority boundaries (Waltham Forest, Redbridge, Enfield, Newham, Haringey, Hackney, Tower Hamlets and Barking and Dagenham), and the SAC itself straddles London and Essex, this analysis is inherently 'in combination'. A further survey was conducted in 2019, and this indicates a slight increase in the distance travelled to site with a new value for the 75th percentile of 6.7 km which is a small increase on the previous calculation.

Draft policies and potential impacts

5.2.3 Three Draft London Plan policies relating to residential development could potentially result in changes to visitor numbers at Habitats Sites and thus have the potential to impact upon the SAC:

- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
- HN1 Increasing London's housing stock.
- PV1 Brownfield first Opportunity Areas (BFOAs).

Assessment and effects

5.2.4 The proportion of visitors from boroughs and districts within the zone of influence for Epping Forest is presented in Table 3. The London Boroughs of Redbridge and Waltham Forest have the SAC within their boundaries and appear from existing data to be major points of visitor origin in London. The Forest Gate area of London Borough of Newham is also a focal point of visitor origin, although this is only a small proportion of the entire borough. Overall, the main points of visitor origin in London appear to be Waltham Forest and Redbridge (with residents from across both boroughs visiting the SAC for recreation).

Table 3. Proportion of visitors from boroughs and districts within the zone of influence for Epping Forest

Authority	% of pressure caused by new development
Epping Forest District Council	15.66%
Waltham Forest	68.13%
Redbridge	12.51%
Newham	1.18%
Enfield	2.52%

Source: Epping Forest Strategic Access Management and Monitoring Strategy 2021; data based on 2021 predictions for development of new housing.

5.2.5 The increases in housing and residents within these boroughs have the potential to have a significant impact on future visitor numbers within the SAC without steps being taken to accommodate those visitors through enhanced visitor management and provision of alternative natural visitor destinations (where appropriate and possible).

- 5.2.6 The Epping Forest Council Strategic Access Management and Monitoring Strategy (SAMMS) 2021⁵² aims to manage recreational pressure within the forest and to protect the qualifying features of the SAC. The SAMMS sets out the need for avoidance measures (through the provision of Suitable Alternative Natural Greenspace (SANG), a formal governance agreement between local authorities within the zone of influence and a programme of measures to mitigate the impact of new development. The SAMMS sets out the contributions expected from each local authority to pay for the measures to be implemented. Individual councils will determine the manner in which contributions are collected.
- 5.2.7 Redbridge Borough Council has introduced a new Natural Greenspace Improvement Strategy which became effective from 1st May 2024 aimed at improving access to and through four green spaces in the borough. The green spaces are Roding Valley, Claybury Park, Hainault Forest Country Park and Fairlop Waters Country Park. The Strategy serves as a Suitable Alternative Natural Greenspace (SANG) measure designed to divert visitors away from the protected site of Epping Forest Special Area of Conservation (SAC)⁵³.
- 5.2.8 Epping Forest District Council Green Infrastructure Strategy⁵⁴ provides guidance and strategy for the provision of SANG in the district in relation to mitigating the impact on Epping Forest SAC. This only applies to Epping Forest District which is outside London but provides useful guidance in developing future SANG and related greenspace intended to draw local residents away from Epping Forest SAC.
- 5.2.9 Waltham Forest Green Spaces and Places SPD, Part 1: Suitable Alternative Natural Greenspace (SANGs) September 2022⁵⁵ outlines the borough's strategy for delivering SANG for proposed housing development. This document lists 39 SANG projects across the borough.
- 5.2.10 The Newham Metropolitan Open Land (MOL) Review (2024)⁵⁶ identifies (in line with Policy G3 of the London Plan (2021)) three new areas to be designated as new MOL:
- A33: West Ham Park
 - Thames Barrier
 - Waterworks River
- 5.2.11 Regarding the Draft London Plan, the residential Broad Locations for Growth (residential BLG) of Eastern Hainault Loop (also identified as a 10-year and 20-year broad growth area) are well within the 6.2km zone around Epping Forest. Fairlop Waters SANG in London Borough of Redbridge is adjacent to Eastern Hainault Loop BLG. There are no residential BLG in Waltham Forest or Newham.

⁵² <https://www.eppingforestdc.gov.uk/app/uploads/2023/02/Interim-Strategic-Access-Management-and-Monitoring-Strategy-SAMMS-2021.pdf>

⁵³ Available at: <https://www.redbridge.gov.uk/media/bpgnb4pv/jsna-2024.pdf> [Accessed 01/04/2025]

⁵⁴ Available at: <https://www.eppingforestdc.gov.uk/app/uploads/2022/01/Green-infrastructure.pdf> [Accessed 01/04/2025]

⁵⁵ Available at: <https://www.walthamforest.gov.uk/sites/default/files/2022-12/LPE33%20SANG%20strategy%20updated%20November%202022.pdf> [Accessed 01/04/2025]

⁵⁶ Available at: <https://www.newham.gov.uk/downloads/file/7690/newham-metropolitan-open-land-review-2024> [Accessed 27/04/2026]

5.2.12 Given the presence of the residential BLG there would need to be an ability of the SANGs in the borough to be uplifted further to accommodate further growth in Redbridge Borough. Section 7 of the Redbridge SANG report does indicate further uplift opportunities. These are identified as:

- Improved linkages between the different intervention sites (Roding Valley, Claybury Park, Fairlop Waters, Hainault Forest).
- Improved surfacing of paths within the Roding Valley to create a full interconnected route along the river and into the southern section.
- Create improved access to the River Roding through natural gravel beaches which provide direct access from nearby paths.
- Enhancements to the River Roding through improving river habitats.
- Path enhancements along additional sections of the route through all four Sites.
- Parking facilities in Claybury Park.
- Public transport access to Hainault Forest

5.2.13 As such there are opportunities to uplift the capacity of the SANG within London Borough of Redbridge, although the Redbridge SANG report does note that the interventions listed above require further assessment and costings if to be incorporated into the Redbridge SANG strategy. The Waltham Forest SANG strategy does not specifically discuss opportunities for SANG expansion, but it is likely at least some of the SANG could be uplifted for further growth, and such a mechanism would need to exist in the borough even without the existence of the Draft London Plan. A strategic opportunity area for strategic green infrastructure has been identified along the lower River Roding in London Borough of Redbridge. While this is driven by opportunities to deliver the Natural Greenspace Improvement Strategy⁵⁷ there are opportunities within this area to also enhance its recreational capacity of semi-natural recreation such as dog walking and the enjoyment of nature, which provides opportunities at a strategic level to reduce and mitigate recreational pressure on Epping Forest SAC from housing growth within 6.2km of the SAC.

5.2.14 The Redbridge SANG report also notes that onsite SANGs provisions (i.e. delivering SANG on development sites) can be agreed with Redbridge Council; however, the report notes that this is in limited circumstances and will likely to be only sites that are contiguous with the 4 SANGs sites that might be able to provide on-site SANGs mitigation. This is likely to be relevant for the Eastern Hainault Loop residential BLG as this is a large site adjacent to existing SANG and could therefore potentially be designed (and should be designed) to include significant areas of semi-natural recreational greenspace that is connected to the existing SANG. The Waltham Forest SANG strategy does not specifically discuss expansion of existing SANG but it is likely that any new recreational greenspace opportunities on new housing sites will have greater impact if connected to, or uplifting the capacity of, the existing SANG projects in the borough.

5.2.15 When determining residential BLG in the Draft London Plan it is essential to:

⁵⁷ London Borough of Redbridge (2024) Natural Greenspace Improvement Strategy

1. Take account of these existing SANG projects as a constraint to ensure that development proposals would not lead to the loss of any existing SANG capacity; and
 2. Use the strategic opportunities to identify greenspace available within the Draft London Plan preparation process (Environment Opportunity Areas) to identify strategic areas of greenspace within 6.2km of Epping Forest SAC that will enable a balance between increased resident population and increased attractive recreational access opportunities to reduce increased recreational pressure within Epping Forest SAC and minimise the need for SANG to be identified at a borough level.
- 5.2.16 Step one above has been undertaken in determining the location and scale of residential BLG. The Eastern Hainault Loop residential BLG is well within the 6.2km zone around Epping Forest. Their quantum and area has taken account of the presence of Fairlop Waters SANG, which is adjacent to Eastern Hainault Loop residential BLG.
- 5.2.17 With regard to step two above The Draft London Plan implementation text for policy “GHR8 Accessible green space” explicitly states that *‘Where a borough includes land within the zone of influence of a designated Special Area of Conservation, such as Epping Forest, quantity standards, site allocation specifications and off-site contribution rates may require adjustments to account for the need for Suitable Alternative Natural Greenspace (SANGs). It may be particularly important to maximise areas of semi-natural greenspace and consider connections to existing SANGs where appropriate’*
- 5.2.18 Following Appropriate Assessment, it was determined that there are no adverse effects on the integrity of the Epping Forest SAC as a result of recreational disturbance alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 5.2.19 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

5.3 Air quality

Summary of pathway and baseline

- 5.3.1 Epping Forest SAC is known to be adversely affected by relatively poor local air quality alongside the roads that traverse the SAC and this has been demonstrated to have negatively affected the epiphytic lichen communities of the woodland as well as other features. The nature of the road network around Epping Forest is such that journeys between a number of key settlements around the Forest by car, van or bus effectively necessitate traversing the SAC. The HRA⁵⁸ of the adopted Epping Forest Local Plan 2011 – 2023 found that the impact of the plan (and in-combination) would

⁵⁸ AECOM (2021) Epping Forest District Local Plan 2021 Habitat Regulations Assessment Available at: https://www.eppingforestdc.gov.uk/app/uploads/2024/02/EB211A-Epping-Forest-Local-Plan-HRA-June-2021-final-for-issue_Optimized.pdf [Accessed 07/04/2026]

require HRA mitigation measures to enable a conclusion of no adverse effects on integrity.

5.3.2 The Interim Air Pollution Strategy for EFSAC⁵⁹ determined that the following mitigation was required to deliver the required reductions by 2033:

- Introduction of a Clean Air Zone from 2025
- Increase the percentage of the vehicle fleet that constitutes ULEVs to 12-15% by 2033

5.3.3 Epping Forest District Council have since assessed that drops in air pollution as a result of other measures and the changing make-up of road traffic mean that the clean air zone is no longer required. The council are not currently pursuing the implementation of the clean air zone and are relying instead on a broader strategy including the focus on voluntary conversion (to ULEV), screening of planning applications and a requirement for mitigation for any development deemed likely to increase pollution.

5.3.4 The Air Pollution Information System⁶⁰ concludes that whilst the woodland habitats which stag beetle inhabit are vulnerable to nitrogen deposition, the stag beetles themselves are not.

Draft policies and potential impacts

5.3.5 The Draft London Plan contains the following policies that could result in increased atmospheric pollution from new housing development linking to impacts upon the SAC:

- MBUL1 Spatial Strategy.
- HN1 Increasing London's housing stock.
- PV1 Brownfield first Opportunity Areas (BFOAs).

5.3.6 This will operate along with expected growth in employment and jobs over the plan period although there is no total specified target quantum of employment growth in the Draft London Plan. Policies impacting employment are:

- GLE2 Supply of industrial land.
- GLE3 Data Centres.
- PV1 Brownfield first Opportunity Areas (BFOAs).
- PV2 Central Activities Zone (CAZ).

5.3.7 Specifically with regard to London, the Draft London Plan contains the policy “Air quality” which places a requirement to all Local Plans (and by extension the Spatial Development Strategy), to address air quality. This policy states:

Plan making

⁵⁹ EFDC (2020) Epping Forest Interim Air Pollution Mitigation Strategy: Managing the effects of Air Pollution on the Epping Forest Special Area of Conservation

⁶⁰ <http://www.apis.ac.uk/> [accessed 26/10/2017]

- A Plan-making authorities should use the latest available evidence regarding poor air quality, vulnerability and exposure to:
- (1) review areas of concern, identifying new ones on their policies map as appropriate;
 - (2) identify prioritised interventions that will help reduce emissions or exposure that can be secured through planning mechanisms; and
 - (3) inform site allocations and area-based approaches in order to plan for air quality improvements and exposure reduction at a neighbourhood scale in a way that integrate on and off-site measures and with relevant Air Quality Action Plans.

Development Management

- B Demolition, construction and ongoing operations deploying non-road mobile machinery should be planned to minimise dust and plant emission impacts, including through meeting the requirements of the Non-Road Mobile Machinery Low Emission zone as per Box GHR10;
- C In identified areas of air quality concerns, Air Quality Assessments (AQA) should be undertaken iteratively from an early stage to inform the optimisation of the design of major schemes to reduce emissions and exposure in line with the policy aim.
- D All development proposals that could have operational (transport and/or building plant) air quality impacts should be demonstrably at least Air Quality Neutral (AQN). In doing so:
- (1) design and on-site solutions to address and minimise contributions to poor air quality should be prioritised; and
 - (2) where relevant, emissions from generators should be minimised by meeting EU Stage V emissions standards as a minimum or demonstrate equivalent emissions performance from start-up using approved abatement technology as needed.
- E Development proposals that are subject to an Environmental Impact Assessment that includes air quality within its scope should contribute to additional air quality improvements proportionate to their scale and impact. This means they should seek to deliver the objectives of the policy aim by demonstrably going beyond relevant Air Quality Neutral benchmarks through:
- (1) integrating additional local plan priority and applicable area-based air quality interventions within the scheme; or, where these are not specified;
 - (2) incorporating features that support wider emissions reduction and concentration dispersal, complementing strategic interventions, and
 - (3) incorporating measures that appropriately reduce exposure to poor

external or external air quality.

- 5.3.8 Three other policies (GLE3, GLE12 and MBUL9) make specific reference to air quality.

Assessment and effects

- 5.3.9 Policies in the Draft London Plan will implicitly improve air quality through requirements to support public transport and support for electric vehicles (which appear in a number of policies) as well as more directly through policy GHR10 Air Quality. Policy GLE3 Data Centres, stipulates that plan making authorities should ensure compliance with Habitats Regulations considering air quality impacts from back-up generators on Epping Forest.
- 5.3.10 Together with the actions in the London Environment Strategy, these demonstrate a strong commitment to improve air quality within the Greater London Authority boundary. Whilst it is noted that the aim is in general to improve air quality from a public health perspective, any improvement in air quality will have a positive knock-on-effect to Habitats designated sites that are sensitive to atmospheric pollution.
- 5.3.11 Overall, the Mayor's air quality policies in the Draft London Plan, The Mayor's Transport Strategy and the London Environment Strategy will improve air quality in London considerably over the plan period and beyond even allowing for growth in population and jobs.
- 5.3.12 The mitigation measures undertaken by Epping Forest District Council, the overarching measures to improve vehicle emissions being undertaken by Transport for London and the Mayor of London and policy GHR10 (Air Quality) which in point A(3) requires local authorities in their plan-making to use the latest available evidence to *'inform site allocations and area-based approaches in order to plan for air quality improvements and exposure reduction at a neighbourhood scale in a way that integrate on and off-site measures and with Air Quality Action Plans'* all contribute to the ongoing management and reduction of emissions. Furthermore implementation guidance for GHR10 states that *"As part of the work to identify prioritised interventions in response to these areas of concern, TfL and the GLA will work with boroughs on mitigation strategies to ensure that new housing and employment development planned does not result in adverse air quality impacts on Epping Forest SAC, alone, or in or in combination with other plans and projects."*
- 5.3.13 Referenced strategies to decarbonise and the ongoing trend to move to lower emission vehicles are expected to result in a reduction of oxidised nitrogen deposits on Habitats Sites.
- 5.3.14 However, there are a number of variables which need to be considered including:
- The impact of local versus national strategies.
 - The rate of change of trends.
 - Possible changes to the timetable for removal from sale of vehicles with internal combustion engines.

- Modelling at a local level (within 200m of Habitats Sites)
- 5.3.15 Further modelling is currently being undertaken to inform a fuller discussion of the trend in air quality particularly from traffic-related NO_x, ammonia and resulting nitrogen deposition in the Epping Forest SAC area within London over the plan period, taking account of expected growth in London.
- 5.3.16 This modelling will include estimation of the maximum contribution that traffic flows and vehicle mix on roads within the sites will make to NO_x and ammonia concentrations both with and without the London Plan in 2036. This data combined with estimates of general reductions in background concentrations of NO_x along with a conservative approach to the contribution of other sources of NO_x (assuming these remain at 2030 levels with no further improvement) will enable nitrogen deposition to be calculated and compared with relevant thresholds.
- 5.3.17 The modelling will be undertaken using TfL projects of traffic flows which consider emissions at known points within the forest roads both at a baseline (current) level and predicted 2036 levels. This will be reported in the next iteration of the Draft London Plan HRA.
- 5.3.18 Following Appropriate Assessment, it could not be concluded that there are no adverse effects on integrity of Epping Forest SAC.

Recommendations for the Draft London Plan

- 5.3.19 To confirm this modelling of air quality is required as described in the previous section and it is recommended that this be completed so that it can be considered in the context of this assessment.

6. Appropriate Assessment: Lee Valley Ramsar and SPA

6.1 Introduction

- 6.1.1 The Lee Valley is a series of wetlands and reservoirs located in the north east of London within the Lee Valley Regional Park. The site occupies approximately 24 km of the valley and comprises embanked water supply reservoirs, sewage treatment lagoons and former gravel pits that support a range of man-made, semi-natural and valley bottom habitats that support wintering wildfowl.
- 6.1.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Recreational activity and urbanization (Public Access/ Disturbance)
 - Air pollution: risk of atmospheric nitrogen deposition, and
 - Water resources.

6.2 Recreational activity and urbanisation

Summary of pathway and baseline

- 6.2.1 Disturbance by the public is noted as threat to Bittern *Botaurus stellaris*, Gadwall *Anas clypeata*, and Shoveller *Anas strepera* in the SIP for the SPA.

Draft policies and potential impacts

- 6.2.2 Three Draft London Plan policies may result in increased urbanisation and demand for recreational greenspace and have the potential to impact upon the SPA/Ramsar site:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).
- 6.2.3 The named species are listed for wintering presence therefore disturbance must be considered in terms of an impediment to foraging and not breeding success.

Assessment and effects

- 6.2.4 There are no residential BLG identified in the vicinity of this SPA, with the closest being over 3.5km to the east of Walthamstow Reservoirs and 2km south of Cheshunt Pits.
- 6.2.5 Access to Cheshunt pits (SSSI) is via network of footpaths and cycleways. The site is comprised of wetland habitats which provide habitat (including open water) for the qualifying species. Recreational activities are restricted primarily to these designated footpaths and cycleways.
- 6.2.6 Within the past fifteen years landowners/managers within the SPA (RSPB, the local Wildlife Trust, the Regional Park Authority and Thames Water) have undertaken initiatives both to facilitate and to promote greater public access to the SPA for recreation.
- 6.2.7 Changing public access is fundamentally linked with increasing visitor numbers given that one of the primary reasons for changing the access is to attract more visitors. Thames Water's flagship Walthamstow Wetlands project, which opened in October 2017, aims to substantially increase public access to, and use of, Walthamstow Reservoirs, which were little used for recreation and had only been accessible by prior arrangement.
- 6.2.8 As part of an ongoing programme to monitor changes in the distribution of species within the reservoir the London Wildlife Trust published Bird Monitoring Report Year 9: April 2023 to March 2024⁶¹.
- 6.2.9 The following species were determined as focal species for the monitoring surveys: breeding tufted duck, gadwall, shoveler and pochard; post-breeding (moulting) tufted duck; over-wintering gadwall, shoveler, tufted duck, and

⁶¹ Available at: <https://www.wildlondon.org.uk/sites/default/files/2025-02/Bird%20Monitoring%20report%202023-24.pdf> [Accessed 14/04/2026]

pochard. Other species (bittern, grey heron, great crested grebe, coot, winter roosting cormorant) mentioned on the SSSI citation were not subject to detailed discussions in the report as they were not considered to be focal species. Of these, bittern *Botaurus stellaris*, shoveler *Anas clypeata* and gadwall *Anas strepera* are qualifying species of the SPA/Ramsar.

- 6.2.10 Bittern were scoped out as focal species as they are only occasional visitors to the Walthamstow Reservoirs (not a regular wintering roosting site) and disturbance of bittern due to increased recreations use is not expected.
- 6.2.11 The report concluded no significant changes in SPA/SSSI duck species numbers or distributions between 2015 and 2024. (Pochard is an exception with populations moving away from open areas following the site opening in 2017, and declining numbers across the site, possibly as a result of increased visitor disturbance. However, Pochard are not a qualifying species of the SPA or Ramsar)
- 6.2.12 The monitoring programme indicates that there have been no untoward impacts on qualifying species to date. The continued monitoring of the site provides the means to ascertain at an early stage if impacts develop in the future. If required there are a number of such mitigation measures available. These could range from increased wardening, through public education initiatives, to creation of physical hides to separate visitors from areas of particular interest for SPA birds, or temporal separation of recreational users and the birds (by restricting use during the winter but allowing much less restricted use during the summer). All of these are measures used as a matter of routine on wetland sites and have enabled a number of wetland sites to support both high ecological interest (including large populations of wintering gadwall and shoveler) and recreational visitor use. Future updates to the Draft London Plan and any HRA work at a more detailed level will need to continue to take account of the results of planned long-term visitor monitoring of the site.
- 6.2.13 There is therefore no current evidence that recreational disturbance of the wintering gadwall and shoveler using Walthamstow Reservoirs in international numbers will be incompatible with growth in London over the Plan period and reason to assume any mitigation will be needed. This is particularly the case since both species are known to be able to habituate to human activity and the peak of human recreational use of the Walthamstow Wetlands is likely to be in summer when numbers of gadwall and shoveler are at their lowest. While dog walking occurs all year round, dogs (other than assistance dogs) are not permitted at Walthamstow Wetlands. Angling takes place at Walthamstow Wetlands but requires either a day or seasonal permit. A mechanism therefore already exists for ensuring angling does not reach unsustainable levels, independent of population growth.
- 6.2.14 Following Appropriate Assessment, it was determined that it could be concluded that there are no adverse effects on integrity of the Lee Valley SPA and Ramsar as a result of recreational disturbance alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 6.2.15 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

6.3 Air quality

Summary of pathway and baseline

- 6.3.1 The SIP for the site lists Air Pollution: risk of atmospheric nitrogen deposition as a threat with an action to “Further investigate potential atmospheric nitrogen impacts on the site based on application of guidance from Chief Scientist Group Nitrogen Task and Finish Group.”. An owner for this task is not identified and no more specific guidance is given.

Draft policies and potential impacts

- 6.3.2 Two Draft London Plan policies relating to residential development could potentially result in changes to air quality and thus have the potential to impact upon the SPA/Ramsar:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).
- 6.3.3 These will operate along with expected growth in employment and jobs over the plan period although there is no total specified target quantum of employment growth in the London Plan. Policies impacting employment are:
- GLE2 Supply of industrial land.
 - GLE3 Data Centres.
 - PV1 Brownfield first Opportunity Areas (BFOAs).
 - PV2 Central Activities Zone (CAZ).

Assessment and effects

- 6.3.4 The only parts of the Lee Valley SPA/Ramsar site in the Draft London Plan area are Walthamstow Reservoirs. These are sealed reservoirs that are internationally designated for their populations of wintering gadwall and shoveler ducks. The Air Pollution Information System (APIS) website provides details of critical loads of atmospheric pollution which, if exceeded, could lead to habitat damage. However, no critical loads are provided for the habitat - open standing water – on which the bird species forming the reason for the international designations rely. This is reflected in the APIS Site Relevant Critical Load tool for the SAC which states ‘Decision to be taken at a site-specific level since habitat sensitivity depends on N or P limitation.’ The APIS website states that ‘No Critical Load has been assigned to the EUNIS classes for meso/eutrophic systems. These systems are often phosphorus limited; therefore, decisions should be taken at a site-specific level’.
- 6.3.5 In this case, no detrimental impacts are anticipated since the Lee Valley SPA/Ramsar, like most freshwater environments, is essentially phosphate limited, rather than nitrogen limited, meaning that it is phosphate availability that controls the growth of macrophytes and algae. The Draft London Plan

will not affect phosphate availability within Walthamstow Wetlands. The main sources of phosphorus are agriculture and treated wastewater. Agricultural activities are not undertaken in Walthamstow and are beyond the scope of the Draft London Plan, while Walthamstow Wetlands is a series of reservoirs and is not a discharge location for treated wastewater. Further, there are no wastewater treatment works that have catchments within the GLA boundary that discharge into the River Lee, or its tributaries⁶².

- 6.3.6 Following Appropriate Assessment, it was determined that it could be concluded that there are no adverse effects on integrity of the Lee Valley SPA and Ramsar as a result of recreational disturbance alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 6.3.7 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

6.4 Water resources

Summary of pathway and baseline

- 6.4.1 The SIP for the site lists water pollution and hydrological changes as threats with responsibility for investigating and agreeing appropriate water levels and quality shared between Environment Agency, Natural England, Thames Water Utilities Ltd, Lee Valley Regional Park Authority (LVRPA).

Draft policies and potential impacts

- 6.4.2 Three Draft London Plan policies may result in changes to water resources and have the potential to impact upon the SPA/Ramsar site:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).

Assessment and effects

- 6.4.3 Walthamstow Reservoirs SSSI is a series of sealed reservoirs that are part of the water supply infrastructure for London. As such, water levels are directly controllable by the site manager (Thames Water) and they have been largely responsible for creating the circumstances that have led to the site being of international importance for gadwall and shoveler. Moreover, Thames Water has invested significantly in water supply infrastructure to ensure that London's water supply is as resilient as possible. This includes the construction of an operational desalination plant at Beckton in north-east London. Future proposals to ensure continued water supply under Thames Water's most recent Water Resource Management Plan⁶³ take account of expected population growth (and climate change projections) to 2075 and in

⁶² Thames Water's Abbey Mills Pumping Station is on the River Lee but since construction of the Lee Tunnel its wastewater is transferred to Beckton STW on the River Thames for treatment and discharge.

⁶³ <https://www.thameswater.co.uk/about-us/regulation/water-resources>

addition to leakage reduction include proposals for greater transfer of water around the country (such as the Severn to Thames Transfer), a new storage reservoir in South East England drawing on the River Thames, and a water recycling project in West London. The WRMP was accompanied by a Habitats Regulations Assessment which did not identify any drawdown or other impacts on Lee Valley SPA/Ramsar site. Therefore, it is considered that the Draft London Plan will not result in levels of water usage that would require Thames Water to establish inappropriate water levels in Walthamstow Reservoirs or general water quality within the River Lee.

- 6.4.4 As it is a closed system there is no pathway for waste water to enter the reservoir, therefore the only possible pathway for pollution is through ground water. Development projects within the Plan area will require Construction Environmental Management Plans (CEMP) which will need to ensure take measures to ensure that there is no pollution of water courses (which is illegal). At the level of the Draft London Plan, and given the requirement for project level HRAs in the future, a conclusion of no adverse impacts from changes to water quality and be drawn.
- 6.4.5 Following Appropriate Assessment, it was determined that it could be concluded that there are no adverse effects on integrity of the Lee Valley SPA and Ramsar as a result of water resources alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 6.4.6 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

7. Appropriate Assessment: Richmond Park SAC

7.1 Introduction

- 7.1.1 The site is approximately 850ha in size. Richmond Park has been managed as a royal deer park since the seventeenth century, producing a range of habitats of value to wildlife.
- 7.1.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Recreational activity and urbanization (Public Access/ Disturbance), and
 - Air pollution: risk of atmospheric nitrogen deposition.

7.2 Recreational activity and urbanisation

Summary of pathway and baseline

- 7.2.1 Richmond Park has open access and is heavily used by the public for a variety of recreational purposes including cycling and dog walking.

Draft policies and potential impacts

- 7.2.2 The Draft London Plan contains the following policies that could result in increased recreational pressure from new housing development linking to impacts on the SAC:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.

Assessment and effects

- 7.2.3 There are no residential BLG identified in the vicinity of this SAC, with the closest being over 7km to the west.
- 7.2.4 The Habitats Regulations Assessments for the London Borough of Richmond upon Thames Regulation 19 Local Plan⁶⁴ identified that Richmond Park SAC *“is designated for stag beetles, which are not susceptible to recreational impacts at this location because the site is managed to ensure that the deadwood habitats which they depend upon is maintained. In addition to this, the majority of this species lifecycle is reliant on deadwood habitat located underground, and as such impacts are considered to be limited and unlikely to result in a reduction in the extent and availability of this habitat for this species. Therefore, it is considered that the proposed site allocations will not result in a Likely Significant Effect, either alone or in combination with other plans or policies, on the qualifying features of the Special Area of Conservation.”* The presence of mature trees and deadwood would be affected by habitat management but not by development identified within the Draft London Plan.
- 7.2.5 Following Appropriate Assessment, it was determined that it could be concluded that there are no adverse effects on integrity of the Richmond Park SAC as a result of recreational disturbance alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 7.2.6 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

7.3 Air quality

Summary of pathway and baseline

- 7.3.1 Richmond Park is open to the public including vehicular access with the potential for nitrogen deposits arising from traffic passing through the park.

⁶⁴ LUC (2024) London Borough of Richmond upon Thames. Regulation 19 Local Plan. Habitats Regulations Assessment Report.

Draft policies and potential impacts

- 7.3.2 Three Draft London Plan policies relating to residential development could potentially result in changes to air quality and thus have the potential to impact upon the SAC:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
- 7.3.3 These will operate along with expected growth in employment and jobs over the plan period although there is no total specified target quantum of employment growth in the London Plan. Policies impacting employment are:
- GLE2 Supply of industrial land.
 - GLE3 Data Centres.
 - PV2 Central Activities Zone (CAZ).

Assessment and effects

- 7.3.4 The Air Pollution Information System⁶⁵ concludes that whilst the woodland habitats which stag beetle inhabit are vulnerable to nitrogen deposition, stag beetles themselves are not vulnerable to nitrogen deposition. The main reason cited is that '*nitrogen deposition is not believed to have a direct, major effect on tree growth in the UK*'⁶⁶ and thus the cycle of tree growth and death should continue, as should a continued supply of dead wood. Most of the effects of nitrogen deposition on woodlands are on features other than tree growth, such as ground flora diversity/structure, fungi and lichen populations.
- 7.3.5 In any event, the interventions outlined in the London Environment Strategy and Mayor's Transport Strategy⁶⁷ will result in a 40 per cent reduction in NOx by 2020, a 55 per cent reduction by 2025 and a 65 per cent reduction by 2030⁶⁸. A decline in NOx emissions will correlate with a net reduction in oxidised nitrogen deposition to Habitats Sites, particularly within 200m of roads, which are the main areas of relevance to this report. As such it can be concluded that the Draft London Plan does not have any impact pathways that could interact with the SAC in a manner that would prevent it achieving its conservation objectives for stag beetle.
- 7.3.6 Following Appropriate Assessment, it was determined that it could be concluded that there are no adverse effects on integrity of the Richmond Park SAC as a result of recreational disturbance alone or in combination with other plans and projects.

⁶⁵ <http://www.apis.ac.uk/> [accessed 26/03/2026]

⁶⁶ <http://www.apis.ac.uk/node/965> [accessed 26/03/2026]

⁶⁷ Mayor's Transport Strategy Supporting Evidence Outcomes Summary Report www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

⁶⁸ London Environment Strategy Appendix 2: Evidence Base (2018) Available at: https://www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

Recommendations for the Draft London Plan

- 7.3.7 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

8. Appropriate Assessment: South West London Waterbodies SPA

8.1 Introduction

- 8.1.1 The South-West London Waterbodies SPA comprises several gravel pits and reservoirs scattered around Staines. Hundreds of migratory wintering gadwall *Anas strepera* and shoveler *Anas clypeata* spend the winter on and around these waterbodies. Their numbers are significant at a European level. Some sites appear to be favoured by one species more than the other whilst some are used by both, and individual birds move from one waterbody to another.
- 8.1.2 Two SSSI units are located in Greater London. These are Kempton Park Reservoirs SSSI and Knight & Bessborough Reservoirs SSSI. Kempton Park Reservoirs SSSI comprises two artificially embanked basins to the northeast of Kempton Park Racecourse near Hampton. The site consists of Kempton Park East Reservoir and Red House Reservoir which lie within the operational boundary of Kempton Waterworks. In addition to the nationally important numbers of gadwall, the site also supports significant numbers of wintering shoveler. Knight & Bessborough Reservoirs SSSI consists of two connected artificially embanked water storage reservoirs that support internationally important population of shoveler, and nationally important populations of gadwall, cormorant *Phalacrocorax carbo* and goldeneye *Bucephala clangula*.
- 8.1.3 The SPA is designated for the following features:
- Gadwall *Anas strepera*,
 - Shoveler *Anas clypeata*.
- 8.1.4 Conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Recreational pressure on some waterbodies, resulting in disturbance
 - Hydrological changes

8.2 Recreational activity and urbanisation

Summary of pathway and baseline

- 8.2.1 The components of the South West London Waterbodies (and other, undesignated, but functionally linked waterbodies) are susceptible to disturbance, if that disturbance is sufficiently extensive in extent, lengthy in

duration or large enough in magnitude to deter a significant proportion of the gadwall and shoveler that utilise those waterbodies, causing them to abandon their preferred waterbodies for other features and reducing the overall population that the complex can support. Different waterbodies have different access arrangements: some are not open to the public at all, others are open to the public, but access is controlled, while a minority have unrestricted public access. The latter are the ones most likely to experience a significant increase in visitors due to local population change.

- 8.2.2 Despite their name, the majority of the SPA waterbodies are beyond Greater London. However, a small part of the SPA - Kempton Nature Reserve/Kempton Park East Reservoir - is in the London Borough of Hounslow; there are also a number of waterbodies in London that constitute functionally-linked habitat. There is an SPA reservoir at Kempton Racecourse in Spelthorne District, just outside London but it doesn't appear to be publicly accessible and is fenced. In the Draft London Plan, there are no residential BLG in the vicinity of South West London Waterbodies SPA/Ramsar, with the nearest being 3km to the north of the SPA/Ramsar.
- 8.2.3 Brian Briggs in his doctoral thesis concerning the waterbodies⁶⁹ considered the extent to which they were disturbed (or vulnerable to disturbance) and also commented on the types of recreational use experienced. That analysis has partly informed the assessment of each relevant component of the SPA (or area of functionally-linked habitat) below.

Draft Policies and potential impacts

- 8.2.4 Three Draft London Plan policies could potentially result in increased urbanisation and demand for recreational greenspace and thus have the potential to impact upon the SPA:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).

Assessment and effects

Kempton Park East reservoir

- 8.2.5 Kempton Park East Reservoir (also known as Kempton Nature Reserve) is located within the Hounslow boundary. However, while public access to the reservoir is possible, it is controlled through the Friends of Kempton Nature Reserve (*'The purpose of these conditions is to ensure that the nature conservation integrity of our reserves is not compromised by unsympathetic access. Please review the following conditions as part of your Friends membership application and comply with them on all visits to our reserves.'*⁷⁰). As such, an increase in the population is unlikely to result in a significant increase in visitors since access can essentially be managed to a degree that balances the ecological interest of the site.

⁶⁹ Brian Briggs. 2007. The use of waterbodies in South-West London by Gadwall and Shoveler: implications for nature conservation. PhD thesis

⁷⁰ www.thameswater.co.uk/media-library/agkjbism/friends-of-thames-water-nature-reserves-membership-conditions.pdf

Stain Hill Reservoirs

- 8.2.6 Stain Hill Reservoirs in the London Borough of Richmond are identified as being a key area for gadwall and are therefore considered functionally linked to the SPA. However, these do not appear to be open to the public. According to Briggs: *‘Stain Hill reservoirs are two small, disused basins next to Hampton Waterworks. The water levels in the basins are low (around 1m), the sites are well sheltered, and they are virtually undisturbed, hence they provide a refuge for birds disturbed at other sites, as well as a valuable roosting and feeding resource for Shoveler’.*

Red House Reservoir

- 8.2.7 Red House Reservoir is located just outside London in Spelthorne Borough. It is still operational as a water supply resource. Access is possible but only by arrangement. As such, an increase in the population is unlikely to result in a significant increase in visitors since access can essentially be managed to a degree that balances the ecological interest of the site. Given this, it is considered that excessive recreational disturbance will not arise and there will therefore be no adverse effect due to the delivery of the Draft London Plan. This conclusion ties in with that of the Spelthorne Local Plan HRA which concluded that *‘development in Spelthorne would not result in an adverse effect on the SPA/Ramsar site either alone or in combination with other projects and plans’*⁷¹.

Bedfont lakes

- 8.2.8 Bedfont Lakes and the Staines Reservoirs are ecologically linked, acting as a unified network of habitats. Birds, particularly wintering wildfowl, use Bedfont Lakes as a vital "refuge" when they are disturbed at the nearby Staines reservoirs, which are protected as part of the South West London Waterbodies Special Protection Area (SPA).
- 8.2.9 Bedfont Lakes are the centrepiece of the Bedfont Lakes Country Park. These lie in the London Borough of Hounslow and constitutes supporting habitat for the SPA, although it is not of particular importance. According to Briggs *‘Bedfont Lakes is managed as a nature reserve and supports small numbers of Gadwall throughout the winter. Birds also use this site as a refuge when disturbed at Princes Lake or the Staines reservoirs.’* The research also indicates that, while the park is open to and popular with the public, the population of gadwall that uses the lakes have become habituated to the presence of people. Indeed, gadwall seems to have become sufficiently habituated that although this site is well used for recreation by dog walkers and joggers it also serves as a refuge for birds displaced from Princes Lake. This is probably also attributable to the management of the site as a nature reserve (in 2007 the site was recorded as having two regular wardens) and the fact that some parts of the site have restricted public access to provide refuge areas.
- 8.2.10 The Hounslow countryside ranger team consists of five full-time rangers and is based at Bedfont Lakes Country Park visitor centre. As a result, the site is patrolled daily throughout the year. The recreational focus of the country park is the terrestrial habitats around the main footpath network. Public access to the lakes themselves (for swimming, fishing, boating etc.) is prohibited and

⁷¹ WSP (2022) Spelthorne Borough Council Local Plan: Habitats Regulation Assessment – Stage 2 Appropriate Assessment available at: spelthornelocalplan.info/wp-content/uploads/sby-local-media/Core_Documents/CD007-Habitats-Regulations-Assessment-Stage-2-Appropriate-Assessment-2022.pdf [Accessed 04/06/2026]

the on-site rangers based at the visitor centre ensure that this rule is followed. The exception is Chattern Hill Lake in the south of the site, which has occasional use for open water swimming and kayaking but which, unlike the other lakes in the north of the site, is not identified by Briggs as being significant for gadwall and shoveler. The rangers also ensure that dogs off-lead are confined to the secure dog parks, which are away from the lakes in the eastern and southern parts of the park. There are few footpaths around the main lakes and the lakes themselves are largely sheltered by surrounding dense tree cover except for specific viewing locations, most with hides. The park is closed at night, which thus provides a long period without any human activity each day.

- 8.2.11 Moreover, the lakes have their greatest (limited) value for gadwall in winter, which according to Hounslow Council and its adopted Local Plan HRA is when visitor numbers at this site are lowest. While a significant increase in the immediate local population may put some additional pressure on ranger resources in summer (although the rangers already manage a large number of summer visitors due to the popularity of the park for people living across the borough), it is not expected to do so in winter, or result in water-based recreation on lakes that are not currently used for that purpose, which are also those of identified value for gadwall and shoveler.

Princes lake

- 8.2.12 Princes Lake was a large waterski site (Princes Club Water Skiing), which at times during the Briggs study supported large numbers of feeding and roosting gadwall and shoveler. This was because the area in the northwest corner of the site was largely undisturbed, unlike most other parts of the site, which were used regularly for waterskiing. The site, therefore, served to support both high populations of gadwall and shoveler alongside water-skiing largely due to the physical separation between the two activities. The waterski centre closed in 2011 following a fatality and the site is no longer open to the public. The boundary of Princes Lakes is security-fenced (including razor wire in places) and will therefore not be accessible to new residents.

Summary

- 8.2.13 Therefore, it is considered that recreational disturbance will not arise and there will therefore be no adverse effect as a result of the delivery of the Draft London Plan alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 8.2.14 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

8.3 Air quality

Summary of pathway and baseline

- 8.3.1 The Air Pollution Information System (APIS) website provides details of critical loads of atmospheric pollution which if exceeded could lead to habitat damage. However, no critical loads are provided for the habitat - open

standing water – on which the bird species forming the reason for the international designation rely.

Draft Policies and potential impacts

- 8.3.2 Three Draft London Plan policies relating to residential development could potentially result in changes to air quality and thus have the potential to impact upon the SPA site:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).
- 8.3.3 These will operate along with expected growth in employment and jobs over the plan period although there is no total specified target quantum of employment growth in the London Plan. Policies impacting employment are:
- GLE2 Supply of industrial land.
 - GLE3 Data Centres.
 - PV1 Brownfield first Opportunity Areas (BFOAs).
 - PV2 Central Activities Zone (CAZ).

Assessment and effects

- 8.3.4 The APIS Site Relevant Critical Load tool for the SAC states 'Decision to be taken at site-specific level since habitat sensitivity depends on N or P limitation.' The APIS website states that 'No Critical Load has been assigned to the EUNIS classes for meso/eutrophic systems. These systems are often phosphorus limited; therefore, decisions should be taken at a site-specific level'. In this case, no likely significant effects are anticipated since the South West London Waterbodies SPA/Ramsar, like most freshwater environments, is essentially phosphate limited, rather than nitrogen limited, meaning that it is phosphate availability that controls the growth of macrophytes and algae. The Draft London Plan will not affect phosphate availability within South West London Waterbodies SPA/Ramsar. The main sources of phosphorus are agriculture and treated wastewater. Agricultural activities of significant scale are not undertaken in the plan area and are beyond the scope of the Draft London Plan, while South West London Waterbodies are a series of reservoirs and are not a discharge location for treated wastewater.
- 8.3.5 Following Appropriate Assessment, it was determined that it could be concluded that there are no adverse effects on integrity of the South West London Waterbodies SPA as a result of recreational disturbance.

Recommendations for the Draft London Plan

- 8.3.6 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

8.4 Water resources

Summary of pathway and baseline

- 8.4.1 A number of the reservoirs that constitute the South West London Waterbodies SPA/Ramsar site are still utilised for operational water supply by Thames Water.

Draft Policies and potential impacts

- 8.4.2 Three Draft London Plan policies have the potential to impact water resources and thus have the potential to impact upon the SPA site:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).

Assessment and effects

- 8.4.3 Since Thames Water is the statutory water company for the London Borough of Hounslow an increase in the population of the borough (coupled as it would be with population growth throughout the Thames Water area) over the Draft London Plan period could theoretically result in a potential effect on the South West London Waterbodies and their ability to support SPA if they required the top level of any of the reservoirs to be increased (to improve their capacity) which resulted in loss of habitat around the reservoir margins which is used by SPA birds.
- 8.4.4 However, Thames Water's Water Resource Management Plan 2024-2050 does not indicate that this is part of their intended solution for water supply in London or elsewhere in their area. Future proposals to ensure continued water supply under Thames Water's most recent Water Resource Management Plan take account of expected population growth (and climate change projections) to 2075 and in addition to leakage reduction include proposals for greater transfer of water around the country (such as the Severn to Thames Transfer), a new storage reservoir in South East England drawing on the River Thames, and a water recycling project in West London. The WRMP was accompanied by a Habitats Regulations Assessment which did not identify any drawdown or other impacts on South West London Waterbodies SPA/Ramsar site. As such it is considered that an adverse effect will not occur through this pathway.
- 8.4.5 Outside London, the South West London Waterbodies lie within a geographic area that straddles Spelthorne District, Runnymede District and the Royal Borough of Windsor and Maidenhead. All three authorities have concluded (through HRAs of the respective local plans) that they will not have an adverse effect on the South West London Waterbodies SPA/Ramsar site for the same reasons set out earlier with regard to growth in London. Due to the general absence of impact pathways and the controlled nature of public access to the relevant parts of the SPA/Ramsar site, it is considered that there would be no effect in combination with other projects and plans.

Recommendations for the Draft London Plan

- 8.4.6 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

9. Appropriate Assessment: Wimbledon Common SAC

9.1 Introduction

- 9.1.1 The site is located within the London Boroughs of Wandsworth and Merton. it is approximately 350 ha in size.
- 9.1.2 The SAC is designated for the following features:
- Beech forests on acid soils with Ilex and sometime Taxus in the shrublayer.
 - Wet heathland with cross-leaved heath; and
 - Dry heath
 - Stag beetle *Lucanus cervus*
- 9.1.3 Conservation objections and environmental vulnerabilities are provided in Appendix C of this report.
- 9.1.4 Impact pathways assessed in respect of this plan are:
- Recreational pressure on some waterbodies, resulting in disturbance
 - Hydrological changes
- 9.1.5 Based on the information currently available on the Draft London Plan, and the adopted London Plan and its HRA the impact pathways assessed in respect of this plan are:
- Public disturbance (inappropriate behaviour by some visitors)
 - Atmospheric pollution

9.2 Recreational activity and urbanisation

Summary of pathway and baseline

- 9.2.1 Wimbledon Common SAC is designated mainly for its population of stag beetle *Lucanus cervus*, although it is also designated for its wet and dry heathland. Similarly to Richmond Park SAC, the stag beetles are dependent on mature trees and deadwood.

Draft Policies and potential impacts

- 9.2.2 Three Draft London Plan policies could potentially result in result in increased urbanisation and demand for recreational greenspace and thus have the potential to impact on the SAC:
- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
 - HN1 Increasing London's housing stock.
 - PV1 Brownfield first Opportunity Areas (BFOAs).

Assessment and effects

- 9.2.3 There are no residential BLG identified in the vicinity of this SAC, with the closest being over 10km to the west.
- 9.2.4 The SIP for Wimbledon Common SAC identifies that removal of dead wood from the site by visitors could adversely affect the ability of the SAC to support stag beetle. However, this is a very specific action as a result of the personal decision of some visitors and cannot be attributed to growth generally.
- 9.2.5 The heathlands of the SAC are theoretically vulnerable to recreational pressure and Wimbledon Common generally (not just the SAC component) is a popular site for visitors.
- 9.2.6 According to habitat mapping on MAGIC (www.magic.gov.uk) the heathland is only found in the northern portion of the SAC. The Natural England condition assessment for the SAC states that most of the heath fails to meet key targets for quality (although the actual extent of the heathland is increasing due to a programme of tree and scrub removal). However, the condition assessment also concludes that there are no indications of significant damaging impacts to the heathland arising from non-native species, drainage, trampling, burning or disturbance. Therefore, although the heathland does not yet meet its key targets this does not appear to be attributable to recreational trampling and is more to do with a historic lack of traditional management.
- 9.2.7 The Draft London Plan policies were subjected to a high-level sieve (Appendix B) to identify those policies that could be dismissed as having no scope for a likely significant effect. As a result of this sieve the focus was placed on housing delivery. The Draft London Plan sets a target for achieving 40,878⁷² new dwellings in the London Boroughs of Wandsworth, and Merton in the first ten years of the plan (2027/28 – 2036/37). It is the delivery of new housing and the associated increase in population that presents the greatest scope for potential effects on the Habitats Site. Merton Council has an adopted plan which aims to deliver 12,084 new homes by 2038. Wandsworth Council has an adopted Local Plan which aims to deliver 20,311 new homes by 2038. The Royal Borough of Kingston upon Thames

⁷² Policy HN1: Increasing Housing Supply provides for the following 10 year housing targets: Merton = 14,272; Wandsworth = 26,609;

housing strategy (2025 – 2050) supports meeting the current target to build 4480 homes by 2034.

- 9.2.8 Local Plans for Wandsworth and Merton were subject to Habitat Regulations Assessment and in both cases the HRAs concluded that the SAC features of Wimbledon Common were not likely to be affected by the large scale of housing planned for the boroughs either alone or in combination with other projects and plans. The Royal Borough of Kingston upon Thames lies adjacent to Wimbledon Common SAC and potential effects on this site were discussed in the HRA of their current adopted Core Strategy. They also concluded that no likely significant effect would arise from growth in the borough, alone or in combination.
- 9.2.9 The 2024 Land Management Plan for Wimbledon and Putney Commons⁷³ is now in place, the purpose of which is to provide a pro-active management framework which highlights the special qualities of the Commons, the importance of its landscape and to identify those areas of the site which are especially vulnerable or require additional protection. Considering relevant international, national, regional and local policies, the Commons' LMP has been designed for everyone who has an interest in the future management of the Commons.
- 9.2.10 The Land Management Plan includes actions to preserve and protect dead wood for the benefit of wildlife. For example, *“As a deliberate management policy standing dead timbers, unless unsafe, are left in situ for the benefit of wildlife, as are fallen and decaying timbers, which especially benefits stag beetles, a key species for the SAC status”*. The land management also contains a 13-point management plan for wet and dry heaths, the status of which has been maintained through management by volunteers for several decades, these actions are:
- Removal of large trees across various areas of heath.
 - Ongoing coppicing and removal of invasive scrub.
 - Stump removal
 - Heather cutting
 - Gorse cutting
 - Bracken control
 - Bare ground creation
 - Firebreak management
 - Cut and collect on selected heathland sites.
 - Heather restoration around the edge of the Wimbledon Common golf course.
 - Carry out feasibility study for the re-introduction of grazing on the Commons.

⁷³ <https://www.wpcc.org.uk/nature/land-management-plan>

- Work in conjunction with Natural England to bring the heath in favourable condition.
- Consider the re-introduction of typical heathland species that are known to have become extinct on the Commons.

9.2.11 It is therefore considered that the scale of growth proposed for Merton, Kingston and Wandsworth in the London Plan is not likely to result in a significant recreational pressure effect on Wimbledon Common SAC alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

9.2.12 There are no recommendations for the Draft London Plan resulting from assessment of this impact pathway.

9.3 Air quality

Summary of pathway and baseline

9.3.1 Wimbledon Common SAC is designated mainly for its population of stag beetle *Lucanus cervus*, although it is also designated for its wet and dry heathland. The SIP for this site indicates that air pollution is a threat to Wet heathland with cross-leaved heath and European dry heath habitats.

Draft Policies and potential impacts

9.3.2 Three Draft London Plan policies could potentially result in result in changes to air quality and thus have the potential to impact on the SAC:

- MBUL1 Spatial Strategy (includes reference to the quantum of housing to be delivered across London Boroughs).
- HN1 Increasing London's housing stock.
- PV1 Brownfield first Opportunity Areas (BFOAs).

9.3.3 These will operate along with expected growth in employment and jobs over the plan period although there is no total specified target quantum of employment growth in the London Plan. Policies impacting employment are:

- GLE2 Supply of industrial land.
- GLE3 Data Centres.
- PV2 Central Activities Zone (CAZ).

Assessment and effects

9.3.4 The Air Pollution Information System⁷⁴ concludes that whilst the woodland habitats which stag beetle inhabit are vulnerable to nitrogen deposition, the stag beetles themselves are not.

9.3.5 An area of heathland within the SAC, from King's Mere to the north-east, does lie within 200m of the A3 and the A219 at Putney Heath. According to

⁷⁴ <http://www.apis.ac.uk/> [accessed 26/10/2017]

MAGIC the biggest blocks of heathland lie more than 200m from the roads and the total area within 200m of either road is c.3.5ha of heathland. According to the Air Pollution Information System (www.apis.ac.uk) average background nitrogen deposition rates within the SAC do exceed the minimum part of the critical load range for heathland at 15 kgN/ha/yr.

- 9.3.6 The Draft London Plan contains the policy “GHR10 Air quality” which places a requirement to all Local Plans to address air quality. This policy states:

Plan making

- A Plan-making authorities should use the latest available evidence regarding poor air quality, vulnerability and exposure to:
- (1) review areas of concern, identifying new ones on their policies map as appropriate;
 - (2) identify prioritised interventions that will help reduce emissions or exposure that can be secured through planning mechanisms; and
 - (3) inform site allocations and area-based approaches in order to plan for air quality improvements and exposure reduction at a neighbourhood scale in a way that integrate on and off-site measures and with relevant Air Quality Action Plans.

Development Management

- B Demolition, construction and ongoing operations deploying non-road mobile machinery should be planned to minimise dust and plant emission impacts, including through meeting the requirements of the Non-Road Mobile Machinery Low Emission zone as per Box GHR10;
- C In identified areas of air quality concerns, Air Quality Assessments (AQA) should be undertaken iteratively from an early stage to inform the optimisation of the design of major schemes to reduce emissions and exposure in line with the policy aim.
- D All development proposals that could have operational (transport and/or building plant) air quality impacts should be demonstrably at least Air Quality Neutral (AQN). In doing so:
- (1) design and on-site solutions to address and minimise contributions to poor air quality should be prioritised; and
 - (2) where relevant, emissions from generators should be minimised by meeting EU Stage V emissions standards as a minimum or demonstrate equivalent emissions performance from start-up using approved abatement technology as needed.
- E Development proposals that are subject to an Environmental Impact Assessment that includes air quality within its scope should contribute to additional air quality improvements proportionate to their scale and impact. This means they should seek to deliver the objectives of the

policy aim by demonstrably going beyond relevant Air Quality Neutral benchmarks through:

- (1) integrating additional local plan priority and applicable area-based air quality interventions within the scheme; or, where these are not specified;
- (2) incorporating features that support wider emissions reduction and concentration dispersal, complementing strategic interventions, and
- (3) incorporating measures that appropriately reduce exposure to poor external or external air quality.

- 9.3.7 Three other policies (GLE3, GLE12 and MBUL9) make specific reference to air quality, Policies in the London Plan will implicitly improve air quality through focus on public transport and support for electric vehicles amongst others). Together with the actions in the London Environment Strategy, these demonstrate a strong commitment to improve air quality within the Greater London Authority boundary. Whilst it is noted that the aim is in general to improve air quality from a public health perspective, any improvement in air quality will have a positive knock-on-effect to Habitats designated sites that are sensitive to atmospheric pollution.
- 9.3.8 The interventions outlined in the adopted London Environment Strategy and Mayor's Transport Strategy⁷⁵ are forecast to result in a 65 per cent reduction in NOx by 2030⁷⁶.
- 9.3.9 Policies in the Draft London Plan will implicitly improve air quality through requirements to support public transport and support for electric vehicles (which appear in a number of policies) as well as more directly through policy GHR10 Air Quality.
- 9.3.10 Together with the actions in the London Environment Strategy, these demonstrate a strong commitment to improve air quality within the Greater London Authority boundary. Whilst it is noted that the aim is in general to improve air quality from a public health perspective, any improvement in air quality will have a positive knock-on-effect to Habitats designated sites that are sensitive to atmospheric pollution.
- 9.3.11 Overall, the Mayor's air quality policies in the Draft London Plan, The Mayor's Transport Strategy and the London Environment Strategy will improve air quality in London considerably over the plan period and beyond even allowing for growth in population and jobs.
- 9.3.12 Following Appropriate Assessment, it was determined that there are no adverse effects on integrity of Wimbledon Common SAC due to the overarching measures to improve vehicle emissions being undertaken by Transport for London and the Mayor of London and policy GHR10 (Air Quality) which in point A(3) requires local authorities in their plan-making to use the latest available evidence to *'inform site allocations and area-based approaches in order to plan for air quality improvements and exposure*

⁷⁵ Mayor's Transport Strategy Supporting Evidence Outcomes Summary Report <https://tfl.gov.uk/corporate/publications-and-reports/travel-in-london-reports?intcmp=3120> [accessed 26/10/2017]

⁷⁶ London Environment Strategy Appendix 2: Evidence Base (2018) Available at: https://www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

reduction at a neighbourhood scale in a way that integrate on and off-site measures and with Air Quality Action Plans’.

- 9.3.13 Notwithstanding the above conclusion air quality modelling exercises are being undertaken for Wimbledon Common, the results of which will inform the local authority plan making described above.
- 9.3.14 As discussed earlier, Wimbledon Common SAC is situated in Wandsworth and Merton boroughs. Over 30,000 dwellings are likely to be delivered in these two boroughs up until 2038 according to adopted Local Plans. Both boroughs adopted Core Strategies that were subjected to Habitat Regulations Assessment. In both cases the HRAs concluded that the scale of housing planned for the boroughs would not result in a likely significant effect on Wimbledon Common SAC either alone or in combination with other projects and plans. Given this, it is considered that no ‘in combination’ impacts will occur.
- 9.3.15 It is therefore concluded that the Draft London Plan will not result in a negative effect through the air quality impact pathway on Wimbledon Common SAC alone or in combination with other plans and projects.

Recommendations for the Draft London Plan

- 9.3.16 It is recommended that air quality modelling for the SAC be undertaken to inform HRAs of local development plans.

10. Habitats Sites beyond London

10.1 Burnham Beeches SAC

Introduction⁷⁷

- 10.1.1 This site is an extensive area of the Burnham Plateau where the Thames gravels give rise to acid soils, which support mature and developing woodland, old coppice, scrub and heath.
- 10.1.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Air pollution: risk of atmospheric nitrogen deposition, and
 - Public access/disturbance

Appropriate Assessment

Public access / disturbance

- 10.1.3 Visitor surveys undertaken for the Corporation of London at Burnham Beeches⁷⁸ indicate that, while some visitors do come from London, they are generally people who visit infrequently, and the vast majority of visitors

⁷⁷ Natural England (2000) SSSI citation: Burnham Beeches

⁷⁸ Liley, D., Floyd, L. and Fearnley, H. (2014). Burnham Beeches Visitor Survey. Footprint Ecology. Unpublished report for Corporation of London

(particularly the vast majority of people who visit at least once per month) arise from outside Greater London.

Air quality

- 10.1.4 Burnham Beeches SAC is within 200m of the A355 and therefore potentially susceptible to the impact of nitrogen deposition. However, the SAC is 8.7km west of London and there are no roads within 200m of the SAC that would constitute journey to work routes for London residents.
- 10.1.5 Of relevance to Habitats Sites situated outside London, the conclusion of the Supporting Evidence Outcomes Summary Report for the Mayor's Transport Strategy is that *'With the MTS, by 2041, travel will have risen by around a quarter but car travel will have fallen by around a third. There would be at least 3 million fewer car trips per day (compared to 2015) and 250,000 fewer cars owned in London...'*. This is expected to correlate with a 65 per cent reduction in NOx by 2030⁷⁹.

Conclusion

- 10.1.6 Therefore, it is possible to conclude that following appropriate assessment there would be no adverse Impacts on the SAC from the Draft London Plan.

10.2 Mole Gap to Reigate Escarpment SAC

Introduction

- 10.2.1 This 999.4ha site lies within Surrey Hills Area of Outstanding Natural Beauty (AONB) and the North Downs Natural Area. The site contains the largest part of the North Downs in Surrey, which has remained relatively undisturbed by modern farming and building. It also contains Box Hill Country Park, Mole Gap, Headley Heath and an area of Common Land.⁸⁰
- 10.2.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Public access/disturbance from human activities, and
 - Air pollution: risk of atmospheric nitrogen deposition

Appropriate Assessment

Public access / disturbance

- 10.2.3 This SAC is just over 5km from Greater London at its closest. Since it is not a conveniently situated site for casual recreational visits for most Londoners, and London (particularly the boroughs closest to the SAC) has a large amount of its own high quality recreational natural greenspace, recreational pressure from the Draft London Plan is unlikely to arise either alone or in combination.

⁷⁹ London Environment Strategy Appendix 2: Evidence Base (2018) Available at: https://www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

⁸⁰ Natural England (2000) SSSI citation: Mole Gap to Reigate Escarpment

Air quality

- 10.2.4 The M25 lies within 200m of the SAC and it may constitute a significant journey to work route for London residents. However, the SAC is located 70m from the M25 at its closest (most of the SAC is 100m or more from the M25). Within the SAC boundary the closest SSSI Management Unit to the M25 is Unit 23. The principal habitat in this unit is lowland calcareous grassland. In December 2017 the consultancy RPS undertook an HRA screening exercise for the Gatwick Runway 2 project that examined the potential for effects on this part of the SAC⁸¹. That report cited an ecological survey of Mole Gap to Reigate Escarpment within 200m of the M25 that was undertaken in June 2017⁸². In summary, the key finding of this survey work, amended in accordance with comments provided by Natural England, was that: *'based on the survey work carried out by RPS, this report concludes that the grassland within 200m of the M25 is currently of a condition unlikely to support SAC quality orchidaceous rich grasslands. Therefore, there is no potential effect for increase in traffic on the M25, as a result of LGW-2R, to have a significant effect with respect to the Annex 1 priority habitat important orchid sites'*. The same report also cited Natural England as confirming that neither natural box scrub nor yew-dominated woodland occur within Unit 23 (that located within 200m of the M25). There is also no heathland within the relevant part of the SAC. This was used as a basis to screen out air quality impacts of traffic growth on the M25 on the international interest features of the SAC.
- 10.2.5 Moreover, the Draft London Plan has a policy (GHR10) which specifically addresses air quality as does the Mayor's Transport Strategy. Initiatives including the Ultra-low Emissions Zone and Clean Air Zone are expected to contribute significantly to improving air quality across London.
- 10.2.6 The Mayor's Transport Strategy has positive provision to improve air quality within the Greater London Authority boundary. In particular, Policy 6 of the Strategy identifies that TfL will work with the boroughs to take action to reduce emissions from vehicles on London's streets, to improve air quality and support London reaching compliance with UK and EU legal limits as soon as possible. This will include measures such as retrofitting vehicles with equipment to reduce emissions, promoting electrification, road charging and the imposition of parking charges/ levies. The extension of the ULEZ for example is a useful tool to improve air quality.
- 10.2.7 Of relevance to Habitats Sites situated outside London, the conclusion of the Supporting Evidence Outcomes Summary Report for the Mayor's Transport Strategy is that the interventions outlined in the London Environment Strategy and Mayor's Transport Strategy⁸³ will result in a 40 per cent reduction in NOx by 2020, a 55 per cent reduction by 2025 and a 65 per cent reduction by 2030⁸⁴. A decline in NOx emissions will correlate with a net reduction in oxidised nitrogen deposition to Habitats Sites, particularly within

⁸¹ RPS (December 2017). Appendix 5. Gatwick Runway 2 – Mole Gap to Reigate Escarpment SAC & Ashdown Forest SPA/SAC Revised Habitat Regulations Assessment Report Stage 1 (Screening). https://www.gatwickairport.com/globalassets/publicationfiles/business_and_community/all_public_publications/second_runway/revised-draft-nps/appendix-5--report1-mole-gap-reigate-escarpment-sac-ashdown-forest-spasac-habitat-regs-stage-1-screen.pdf

⁸² Mole Gap to Reigate Escarpment – Site Survey by RPS (June 8th 2017)

⁸³ Mayor's Transport Strategy Supporting Evidence Outcomes Summary Report www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

⁸⁴ London Environment Strategy Appendix 2: Evidence Base (2018) Available at: https://www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

200m of roads, which are the main areas of relevance to this report. Fewer cars in London should translate into a net decrease in the use of cars for journeys to work to destinations outside London particularly since it is already the case that far more journeys to work are from surrounding authorities into London, rather than from London into surrounding authorities^{85 86}. Overall, the Mayor's air quality policies in the Draft London Plan, The Mayor's Transport Strategy and the London Environment Strategy is expected to result in a considerable net improvement in air quality over the plan period and beyond, even allowing for growth in population and jobs over the same time period and for national initiatives.

Conclusion

- 10.2.8 Therefore, it is possible to conclude that following appropriate assessment there would be no adverse Impacts on the SAC from the Draft London Plan.

10.3 Thames Estuary and Marshes SPA and Ramsar site and other downstream Habitats Sites on the River Thames

Introduction

- 10.3.1 The Thames Estuary & Marshes SPA and Ramsar site has a variety of different habitat types such as saltmarshes, grazing marshes, sea walls, counterwalls, fleets, dykes and mudflats. This site supports a large diversity of wading birds and wildfowl. The mudflats attract large numbers of feeding waders and wildfowl. Specially protected bird species found within the site include the hen harrier (*Circus cyaneus*), short-eared owl (*Asio flammerus*), ruff (*Philomachus pugnax*), common tern (*Sterna hirundo*), avocet and golden plover (*Pluvialis apricaria*). The site also supports a diverse range of invertebrates including beetles, flies and true bugs. The scarce emerald damselfly (*Lestes dryas*) can be found in the Cliffe area of the site. 100 species of nationally scarce invertebrates have been recorded on the site all of which are restricted to wetland, estuarine or grazing marsh habitat.⁸⁷
- 10.3.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Eutrophication – Studies by the Environment Agency indicate that the waters in the Thames estuary are hyper-nutriented for nitrogen and phosphorus.
 - General disturbance from human activities

⁸⁵ According to the 2011 census total commuting inflows from other parts of England & Wales to London were 790,000 compared to total commuting outflows from London to other parts of England & Wales of 271,000. There was thus a net commuting inflow from the rest of England and Wales to London of 519,000 and this is expected to increase. Source: GLA Intelligence Census Information Scheme 2014-11 'Commuting in London' dated July 2014 <https://londondatastore-upload.s3.amazonaws.com/Zho%3Dttw-flows.pdf>

⁸⁶ 2021 data is heavily influenced by a spike in home working as a result of COVID and is not a suitable update to this data

⁸⁷ Natural England (2000) SSSI citation: South Thames Estuary and Marshes

Appropriate Assessment

Public access / disturbance

- 10.3.3 Habitats and species associated with these Habitats Sites have been identified to be vulnerable to disturbances from recreational pressure. In 2012, a detailed study was undertaken of the North Kent Marshes internationally designated sites, investigating disturbance of birds for which the North Kent Estuaries (including Thames Estuary and Marshes SPA and Ramsar site, The Swale SPA/Ramsar site and Medway Estuary & Marshes SPA/ Ramsar site) were designated. The study provided outcomes and recommendations. These included that:
- Disturbance from people is a potential cause for bird population declines.
 - Whilst all activities caused disturbances to bird features, dog walking was not to be of particular disturbance.
- 10.3.4 Development within 6km of access points to the SPAs is particularly likely to lead to increase in recreational use of the SPAs. Local greenspace use such as dog walking, cycling, jogging, walking and to some extent family outings will originate from people living within this radius, and as such in general development beyond this (with the exception of large developments within 6 km of the sites) will not result in adverse effects alone or in combination with other projects or plans.
- 10.3.5 The Thames Estuary and Marshes SPA and Ramsar site is located 10km south east of Havering, which is the closest London borough. This was given preliminary consideration but is considered to be too far from the Habitats Site for Havering to form part of its core regular recreational catchment⁸⁸.

Eutrophication

- 10.3.6 Wastewater impacts from London population growth were considered, but Thames Water have invested extensively in infrastructure (such as the Thames Tideway tunnel and Lee Tunnel which connect directly to the expanded Beckton Sewage Treatment Works (STW) and upgrades to the Mogden and Crossness STW to ensure that water quality in the River Thames (and thus the SPA/Ramsar site downstream) improves notwithstanding the expected increase in the population of the catchment of WWTW that discharge to the tidal river.
- 10.3.7 As such, it is considered that there will be no adverse effects of the new Draft London Plan upon the Thames Estuary and Marshes SPA and Ramsar site. This same conclusion will also apply to those coastal Habitats Sites further downstream around the Thames Estuary, such as Medway Estuary & Marshes SPA and Ramsar site, The Swale SPA and Ramsar site and Benfleet & Southend Marshes SPA and Ramsar site, in addition to the Outer Thames Estuary SPA and proposed SPA extension.

⁸⁸ There does not appear to have been visitor survey of the part of the SPA in Thurrock but the much larger area of SPA in Kent has been surveyed and a core catchment of 6km has been identified. It is reasonable to assume that the Thurrock part of the SPA has a similar catchment (possibly smaller since the site itself is smaller and therefore possibly less appealing) in which case the main population centres of Havering would be well outside the core catchment as the closest (Cranham) is 13km away

Conclusion

- 10.3.8 Therefore, it is possible to conclude that following appropriate assessment there would be no adverse Impacts on the SPA from the Draft London Plan.

10.4 Thames Basin Heaths SPA

Introduction

- 10.4.1 This approximate 8275 ha composite site is located across the counties of Surrey, Hampshire and Berkshire. It includes Ash to Brookwood Heaths SSSI, Bourlet and Long Valley SSSI, Bramshill SSSI, Broadmoor to Bagshot Woods and Heaths SSSI, Castle Bottom to Yatley and Hawley Common SSSI, Clobham Common SSSI, Colony Bog and Bagshot Heaths (SSSI) Eelmoor Marsh SSSI, Hazeley Heath SSSI, Horsell Common SSSI, Ockham and Wiseley Common SSSI, Sandhurst to Owlsmoor Bogs and Heath SSSI and Whitmoor Common SSSI⁸⁹.
- 10.4.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Hydrological changes.
 - Public access/disturbance from human activities
 - Air pollution: risk of atmospheric nitrogen deposition

Appropriate Assessment

Public access / disturbance

- 10.4.3 Visitor survey work undertaken for the authorities surrounding the Thames Basin Heaths SPA has identified that the core recreational catchment (i.e. the zone from which the vast majority of visitors derive) is 5km. The nearest significant settlement in Greater London (Chessington) is nearly 10km from the SPA.

Air quality

- 10.4.4 The heathlands on which the SPA birds rely are susceptible to deteriorating air quality and the M3 and M25 both lie within 200m of the SPA and could constitute journeys to work routes for London residents. However, transport and air quality modelling for local authorities immediately around this SPA (e.g. for the HRA of Guildford Local Plan) have concluded that even allowing for the expected 'in combination' growth in traffic to c. 2033 from all sources, there is expected to be a net improvement in air quality adjacent to those roads as a result of improved background air quality and vehicle emissions. Moreover, the area within 200m from the roadside of the M3 and M25 is either protected from the motorway by embankment or cut as a firebreak. SPA protected bird species will never nest closer than 70m to the roadside and much further than that for other species.
- 10.4.5 The Mayor's Transport Strategy has positive provision to improve air quality within the Greater London Authority boundary. In particular, Policy 6 of the

⁸⁹ English Nature (2005) EC Directive 79/409 on the Conservation of Wild Birds Special Protection Area (SPA)

Strategy identifies that TfL will work with the boroughs to take action to reduce emissions from vehicles on London's streets, to improve air quality and support London reaching compliance with UK and EU legal limits as soon as possible. This will include measures such as retrofitting vehicles with equipment to reduce emissions, promoting electrification, road charging and the imposition of parking charges/ levies. The extension of the ULEZ for example is a useful tool to improve air quality.

- 10.4.6 Of relevance to Habitats Sites situated outside London, the conclusion of the Supporting Evidence Outcomes Summary Report for the Mayor's Transport Strategy is that the interventions outlined in the London Environment Strategy and Mayor's Transport Strategy⁹⁰ will result in a 40 per cent reduction in NOx by 2020, a 55 per cent reduction by 2025 and a 65 per cent reduction by 2030⁹¹. A decline in NOx emissions will correlate with a net reduction in oxidised nitrogen deposition to Habitats Sites, particularly within 200m of roads, which are the main areas of relevance to this report. Fewer cars in London should translate into a net decrease in the use of cars for journeys to work to destinations outside London particularly since it is already the case that far more journeys to work are from surrounding authorities into London, rather than from London into surrounding authorities^{92 93}. Overall, the Mayor's air quality policies in the Draft London Plan, The Mayor's Transport Strategy and the London Environment Strategy is expected to result in a considerable net improvement in air quality over the plan period and beyond, even allowing for growth in population and jobs over the same time period and for national initiatives.

Conclusion

- 10.4.7 Therefore, it is possible to conclude that following appropriate assessment there would be no adverse Impacts on the SPA from the Draft London Plan.

10.5 Thursley, Ash, Pirbright & Chobham SAC

Introduction

The heathland is a series of large fragments of previously more continuous with transitions to wet heath and valley mire, scrub, woodland and acid grassland. This habitat supports an important assemblage of animal species, including numerous rare and local invertebrate species, such as the nationally rare white-faced darter *Leucorrhinia dubia*, as well as sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*.

- 10.5.1 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:

⁹⁰ Mayor's Transport Strategy Supporting Evidence Outcomes Summary Report www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

⁹¹ London Environment Strategy Appendix 2: Evidence Base (2018) Available at: https://www.london.gov.uk/sites/default/files/les_appendix_2_-_evidence_base_0.pdf [accessed 26/03/2026]

⁹² According to the 2011 census total commuting inflows from other parts of England & Wales to London were 790,000 compared to total commuting outflows from London to other parts of England & Wales of 271,000. There was thus a net commuting inflow from the rest of England and Wales to London of 519,000 and this is expected to increase. Source: GLA Intelligence Census Information Scheme 2014-11 'Commuting in London' dated July 2014 <https://londondatastore-upload.s3.amazonaws.com/Zho%3Dttw-flows.pdf>

⁹³ 2021 data is heavily influenced by a spike in home working as a result of COVID and is not a suitable update to this data

- Hydrological connections,
- Public access and disturbance, and
- Air pollution: impact of atmospheric nitrogen deposition,

Appropriate Assessment

- 10.5.2 The Thursley, Ash, Pirbright and Chobham SAC is collocated with the Thames Basin SPA sites, it is subject to the same pressures and covered by the same SIP. Therefore, pressures are the same for this SAC as for the Thames Basin SPA.
- 10.5.3 The Appropriate Assessment for the Thames Basin SPA therefore also applies to the Thursley, Ash, Pirbright and Chobham SAC.

Conclusion

- 10.5.4 As such, it is considered that there will be no adverse effects of the new Draft London Plan upon the Thursley, Ash, Pirbright and Chobham SAC.

10.6 Windsor Forest & Great Park SAC

Introduction⁹⁴

- 10.6.1 Windsor Forest and Great Park comprises one of the largest continuous tracts of woodland parkland in Berkshire and lies in the local authority areas of Bracknell Forest and the Royal Borough of Windsor & Maidenhead.. This area includes a range of habitats such as coniferous and mixed plantations, mature and over-mature broadleaved woodland, woodland pasture, parkland relicts of the primary forest still survive as ancient oak pollards scattered throughout the Park and Forest, unimproved grassland, semi-improved grassland and grass-heath.
- 10.6.2 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Air pollution: risk of atmospheric nitrogen deposition

Appropriate Assessment

Air Quality

- 10.6.3 The site is 5km from London but 7km from the nearest settlement within London (Longford) and nearly 10km from the nearest substantial urban area or settlement. There are also no roads within 200m of the SAC that would form part of daily road-based journeys to work for London residents. The HRA of the Windsor & Maidenhead Local Plan concluded that there would be no adverse effects of growth on the SAC alone or in combination with other Local Plans, in part due primarily to the general resilience of the SAC and its designated interest features to impacts such as recreational pressure and partly due to the alternative areas of natural greenspace that were being provided in the Borough as mitigation for impacts on the Thames Basin Heaths SPA. Due to the greater distance of London from the SAC and the

⁹⁴ Natural England (2000) SSSI citation: Windsor Forest and Great Park

large areas of recreational greenspace within London itself (e.g. The Royal Parks, the Lee Valley Regional Park, Epping Forest, and the Walthamstow Wetlands).

Conclusion

- 10.6.4 Therefore, it is possible to conclude that following appropriate assessment there would be no adverse Impacts on the SPA from the Draft London Plan.

Wormley- Hoddesdonpark Woods SAC

10.6.5 Introduction⁹⁵

- 10.6.6 This 146.3ha site is a series of discrete woodland blocks. These woodland blocks are mainly on acid gravel deposits over London Clay and have developed from ancient wood-pasture and heaths.
- 10.6.7 Qualifying features, conservation objections and environmental vulnerabilities are provided in Appendix C of this report. Impact pathways assessed in respect of this plan are:
- Air pollution: risk of atmospheric nitrogen deposition, and
 - Public access/disturbance

Appropriate Assessment

Public Access / Disturbance

- 10.6.8 This SAC is located 3.7 km outside of Greater London in the boroughs of Broxbourne, Welwyn & Hatfield and East Hertfordshire, although it is 5-6km from the nearest substantial London settlements. The site is designated for its oak- hornbeam forests. The majority of the woods in the complex are in sympathetic ownership, with no direct threat (Hoddesdon Park Wood for example, is managed by the Woodland Trust). There is some pressure from informal recreation, and there has been limited damage in the past (for example from four-wheel drive vehicles). Natural England's SIP⁹⁶ indicates that the site is heavily used by the public for recreational purposes, but it also indicates that recreational activity is generally well-managed and encouraged.

Air quality

- 10.6.9 Only a small area of the site (500m²) is situated within 200m of a major road (the A10), and this area is primarily a track/path/arable field boundary that constitutes approximately 0.01% of the SAC and is located 190m from the road at its closest. The HRAs undertaken for the East Herts Plan, Broxbourne Local Plan and Welwyn Hatfield Local Plan have all concluded that there would be no adverse effect, or adverse effect on integrity, from their growth in combination with other plans and projects. Since these authorities are all much closer to the SAC than is London, it can also be concluded that no adverse effect will arise in combination from the Draft London Plan.

⁹⁵ Natural England (2000) SSSI citation: Wormley-Hoddesdonpark woods north

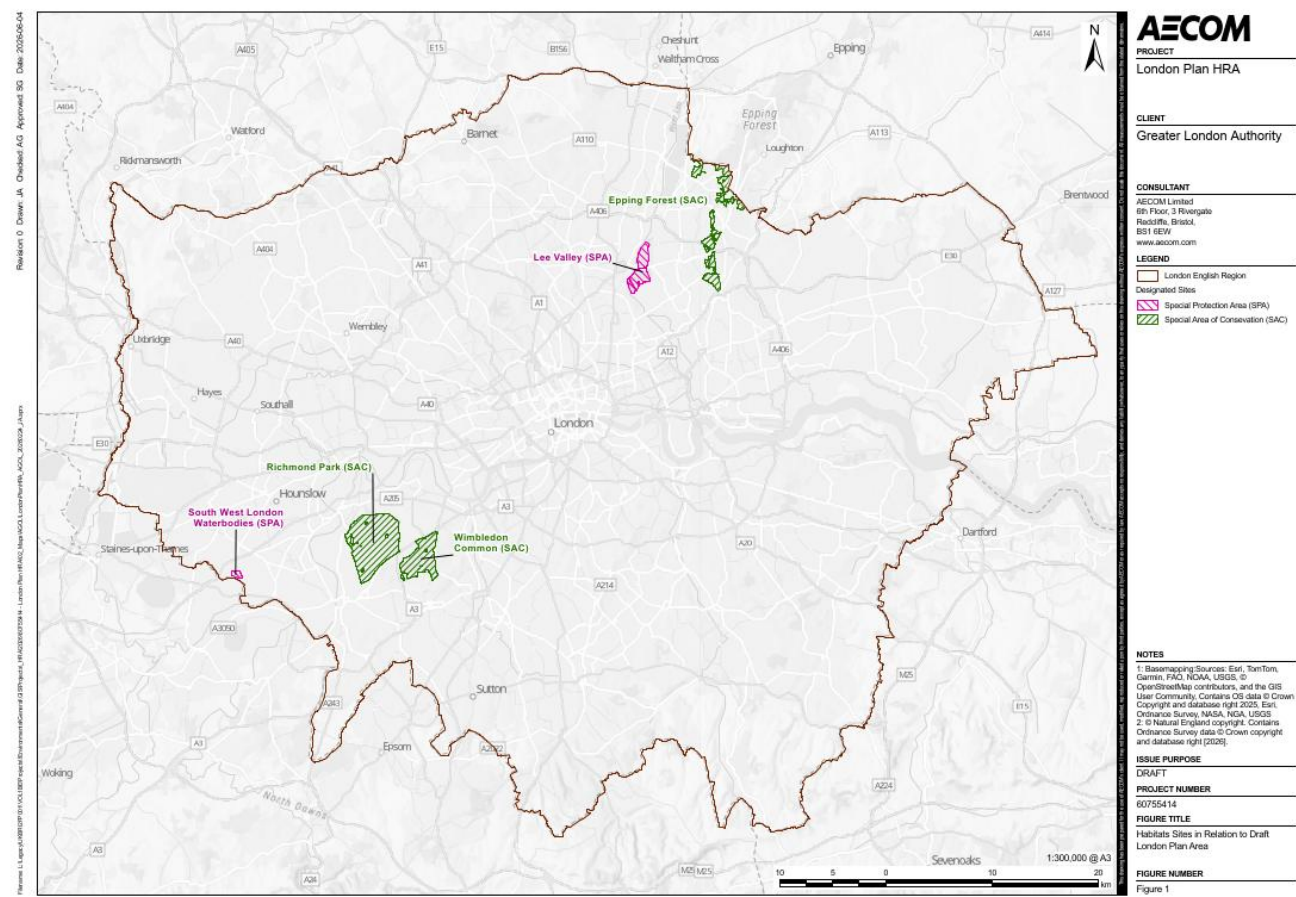
⁹⁶ Natural England (2015). Site Improvement Plan Wormley-Hoddesdonpark Woods

Conclusion

10.6.10 Therefore, it is possible to conclude that following appropriate assessment there would be no adverse Impacts on the SPA from the Draft London Plan.

Appendix A Figures

Figure 4 Habitats Sites in Relation to Draft London Plan Area



Appendix B Screening of policies

Table 4. Screening of Policies

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
MBUL1 Spatial Strategy	This policy aims to meet London's spatial development needs, and distribute and manage growth in a way that optimises outcomes across good growth objectives. The policy sets out that local plans should deliver new homes in line with this policy with specific reference to: • Prioritising certain areas for growth • Supporting incremental growth on small sites • Making provision for further strategic growth • Prioritise affordable housing and public transport improvements • Secure allocations and developer contributions through safeguarding • Help realise strategic opportunities for nature recovery	Likely Significant Effect. This policy focuses on strategic priorities to give overarching guidance to borough councils. The guidance includes reference to a quantum of housing to be delivered via Local Plans requiring increases in housing across all London boroughs. This policy is screened in for all pathways and Habitat sites given the breadth of the policy.
MBUL2 Optimising the use of land and site capacity	This policy aims to ensure development make best use of land and makes the most of all opportunities on brownfield land. This policy sets out requirements to optimise land usage through achieving minimum densities for residential development, promoting the London-wide small Site design code and identifying suitable opportunities to combine smaller sites under one site allocation where this would increase capability for mid-rise development (12-30m in height)	No Likely Significant Effect. This policy governs development to optimise land usage. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
MBUL3 Tall Buildings	This policy aims to set an appropriate framework for tall building development. It specifies that planning authorities should define areas with clear boundaries for tall building development and guidelines for the management of these developments.	There are no linking impact pathways from this policy. No Likely Significant Effect. This policy governs development in respect of tall buildings. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development. There are no linking impact pathways from this policy.
MBUL4 Utilities - capacity, connectivity, and resilience	This policy aims to support the evolution and development of utility systems that provide the backbone for enabling good growth in London. It provides for the coordination of the strategic sufficiency and resilience of utilities infrastructure to support the growth anticipated over the plan period and other plan objectives, through effective design and interventions that make London's utilities networks more future-fit in relation to decarbonisation, climate change and changing technologies and patterns of use. This policy sets out requirements for strategic growth and infrastructure.	No Likely Significant Effect This policy provides for resilience of utilities infrastructure fit in relation to decarbonisation, climate change and changing technologies and patterns of use. The provision of low polluting infrastructure is a policy that has the potential to reduce atmospheric pollution contributions. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development. There are no linking impact pathways from this policy.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
MBUL5 Sustainable Transport to enable London's Growth	This policy aims to ensure that buildings and places maintain quality of life and place into the future and navigate the complexities of a dense urban context through good design. This policy sets out requirements in relation to sustainable transport.	No Likely Significant Effect. This policy governs development to optimise land usage. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development. Retention and promotion of connectivity and capacity of public transport are likely to have a positive impact on air quality over time. There are no linking impact pathways from this policy.
MBUL6 High quality design for a growing changing city	The aim of this policy is to ensure that buildings and places are designed to maintain quality of life and place into the future through good design, reflecting the evolving nature of opportunity and the context of an increasingly dense mixed-use city. This policy sets out requirements for developments to follow the design codes laid out in the policy, use the latest climate change risk modelling to inform site selection and design specifications, and plan positively for contrasting uses to co-exist side by side in mixed use neighbour hoods.	No Likely Significant Effect This policy provides for adoption of high quality design codes. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development. There are no linking impact pathways from this policy.
MBUL7 London's Heritage	The aim of this policy is to ensure that new development is of high-quality design which responsive to the valued and distinctive features of London, and it builds on the framework of policies at national level which manages the conservation of heritage assets by	No Likely Significant Effect This is a general development policy which guides development in relation to heritage.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
	setting out a specific approach to the historic environment in London including its World Heritage Sites. This policy sets out requirements for the protection of heritage.	It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.
MBUL8 Inclusive Design	The aim of this policy is to ensure that development contributes towards an inclusive built environment enabling all Londoners to participate in the city. The policy sets out requirements for inclusive design.	No Likely Significant Effect This is a general development policy which guides development in relation to inclusion and accessibility. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.
MBUL9 Healthy Streets and Public Realm	The aim of this policy is to deliver streets and public realm that are welcoming, accessible and safe. The policy sets out requirements for development in the public realm.	No Likely Significant Effect This policy is positive in promoting the need for Local Plans to ensure that streets and other spaces in the public realm provide a sense of place and contribute to key environmental goals. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
MBUL10 Security and safety	The aim of this policy is to ensure that buildings and places are designed for security, safety and Resilience and reflect the particular context of London. This policy sets out requirements for security and where appropriate counter-terrorism considerations.	No Likely Significant Effect This is a general policy which gives guidance on future security. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.
HN1 Increasing London's housing stock	This policy provides guidance for requirements and development to increase London's housing stock to meet future needs	Likely Significant Effect. This policy focuses on the requirement to increase residential development to meet London's housing needs. The guidance includes reference to a quantum of housing to be delivered via Local Plans requiring increases in housing across all London boroughs. This policy is screened in for all pathways and Habitat sites given the breadth of the policy.
HN2 Protecting and reshaping housing	The aim of this policy is to ensure the homes that meet Londoners' needs are protected or that the appropriate steps are taken to secure ensure re-provision and to deliver overall benefits. The policy sets out requirements to minimise loss of self-contained housing and other accommodation.	No Likely Significant Effect This policy provides general development guidance for residential developments. Levels of appropriate housing within the overall housing targets are set for each borough in, but no specific locations, as

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
		such this is most appropriately assessed at the Local Plan Level. It can be considered that at the Plan level there are no linking impact pathways.
HN3 Delivering affordable housing	The aim of this policy is to deliver affordable housing to contribute to meeting London's need as set out in London's Strategic Housing Market Assessment (SHMA). The policy sets out requirement to maximise delivery of affordable housing delivering 237,000 low-cost rent and 95,000 intermediate rent homes by 2037 and provides targets for the location or land profile of new homes.	No Likely Significant Effect This policy focuses on the requirement to maximise the delivery of affordable housing within the overall housing targets. The guidance includes reference to a quantum of housing to be delivered via Local Plans requiring increases in housing across all London boroughs. Levels of affordable housing to be delivered are set for each borough, but no specific locations, as such this is most appropriately assessed at the Local Plan Level. It can be considered that at the Plan level there are no linking impact pathways.
HN4 Gypsy and Traveller Accommodation	The aim of this policy is to meet the accommodation needs of Gypsy and Traveller and Travelling Showperson households by providing pitches, plots and other culturally appropriate accommodation. The policy sets out requirements to meet the needs of London's Gypsy and Traveller and Travelling Showpeople communities.	No Likely Significant Effect This policy focuses on the requirement to provide Gypsy and Traveller accommodation. Targets are set for each borough, but no specific locations, as such this is most

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
		appropriately assessed at the Local Plan Level. It can be considered that at the Plan level there are no linking impact pathways.
HN5 Managing specialist accommodation	The aim of this policy is to secure the delivery and management of good quality specialist and supported housing that meets the varied needs of Londoners. The policy sets out requirements for purpose-built student accommodation, large-scale purpose-built shared living and specialist older persons accommodation.	No Likely Significant Effect This policy focuses on the requirement to provide specialist accommodation. No new targets or locations are set, delivery is within the existing targets set in HN1. It can be considered that at the Plan level there are no linking impact pathways.
HN6 Build to rent	The aim of this policy is to facilitate a housing product which addresses identified housing needs, and to encourage boroughs to take a supportive, balanced approach to the Build to Rent sector. The policy sets out requirements for a positive approach to building for the rental market and ensuring that rental homes built will remain in the sector for at least 15 years.	No Likely Significant Effect. This policy focuses on the requirement for availability of rental properties to meet the housing needs. The policy is designed to manage the proportion of rental properties within the overall housing requirement defined in policy HN1. It can be considered that at the Plan level there are no linking impact pathways.
HN7 Housing size mix	The aim of this policy is to ensure that new development provides a range housing sizes, to meet Londoners' needs and build strong and	No Likely Significant Effect This policy focuses on the requirement to provide a range of housing sizes. It

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
	inclusive communities, without undermining viability and hampering the ability to achieve high housing targets The policy sets out requirements to ensure that an appropriate mix of housing is maintained.	influences the mix of housing within a development but does not in itself lead to an increase in development. It can be considered that at the Plan level there are no linking impact pathways.
HN8 Housing design	The aim of this policy is to ensure that new residential development is of high-quality design and provides homes that meet Londoners' needs now and into the future. The policy sets out guidelines and development principles to govern the building of residential accommodation.	No Likely Significant Effect This policy focuses on the design of houses within a development. It does not in itself lead to an increase in development. It can be considered that at the Plan level there are no linking impact pathways.
HN9 Accessible housing	The aim of this policy is to meet Londoners' needs now and well managed. into the future. The policy sets out requirements and principles for the provision of accessible housing.	No Likely Significant Effect This policy focuses on the design of houses within a development in respect to accessibility and tenure requirements. It does not in itself lead to an increase in development. It can be considered that at the Plan level there are no linking impact pathways.
HN10 Burial space	The aim of this policy is to plan pro-actively for the expansion, re-use and long term provision of burial space to meet future demand. The policy sets out principles for the provision of new burial space.	No Likely Significant Effect This policy provides guidance on the provision of burial space. It can be considered that at the Plan level there are no linking impact pathways.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
GLE1 Sufficient and appropriate employment space	The aim of this policy is to provide for the land use and floorspace needs of all sectors of the economy and support delivery of the London Growth Plan. The policy sets out principles to manage the type and nature of economic development.	No Likely Significant Effect This is a management policy which provides for developments to support a diverse economy, however it does not specify location or quantity of housing to be delivered and therefore, impact cannot be assessed at this level It can be considered that at the Plan level there are no linking impact pathways.
GLE2 Supply of industrial land	The aim of this policy is to support economic growth by meeting the strategic needs of businesses, services and infrastructure uses in London that rely on industrial land. The policy sets out requirements for LPAs to ensure the requirement for land for economic development are met and appropriately serviced.	Likely Significant Effect. This policy requires LPAs to provide a supply of land and suitable infrastructure. It is the intention of this policy to increase economic development. This policy is screened in for all pathways and Habitat sites given the breadth of the policy.
GLE3 Data centres	The aim of this policy is set strategic criteria in order to meet the need for data centres in suitable locations in London while mitigating disproportionate impacts and delivering benefits for the local community and environment. The policy sets out requirements to ensure the requirement for land for development of data centres is met and appropriately serviced.	Likely Significant Effect. This policy requires LPAs to provide a supply of land and suitable infrastructure for the development of data centres. It is the intention of this policy to increase economic development.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
		This policy is screened in for all pathways and Habitat sites given the breadth of the policy.
GLE4 Night-time economy	The aim of this policy is to protect and promote London's thriving 24-hour economy and public houses, whilst supporting the night-time workforce, enabling efficient operation of night-time businesses. The policy sets out requirements for LPAs to plan for growth in the night-time economy.	No Likely Significant Effect This is a management policy which requires consideration of actions to plan for growth in the nighttime economy, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE5 Culture and creative industries	The aim of this policy is to promote London's rich cultural offer through the enhancement and protection of its diverse range of cultural facilities and creative industries. The policy sets out requirements to enhance and protect culture and creative industries	No Likely Significant Effect This is a management policy which requires consideration of actions to plan for growth in the culture and creative industries, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE6 Visitor infrastructure	The aim of this policy is to strengthen London's role as a world-leading visitor destination and spread economic and regeneration benefits. The policy sets out requirements to consider enhancement, extension and inclusive access of London's visitor economy including its attractions, visitor accommodation and other supporting infrastructure in all parts of the capital.	No Likely Significant Effect This is a management policy which requires consideration of actions to improve visitor infrastructure, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
GLE7 Affordable workspace	The aim of this policy is to provide workspace that is affordable for end-users for specific social, cultural or economic development purposes. The policy sets out requirements to include policies to support delivery of affordable workspace,	No Likely Significant Effect This is a management policy which provides the provision of affordable workspace, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE8 Access to employment and skills	The aim of this policy is to secure good quality employment and training opportunities in major developments for Londoners, including those who are out of work, under-employed or from under-represented groups in the labour market. The policy sets out requirements to support Londoner's into suitable opportunities through specific planning obligations.	No Likely Significant Effect This is a management policy which looks to support Londoners into suitable work or training, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE9 Aviation	The aim of this policy is to ensure London's aviation sector supports sustainable and equitable economic growth while fully addressing its environmental and health impacts. The policy sets out the conditions which must be met for the expansion of current facilities.	No Likely Significant Effect This policy does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE10 Safeguarded Wharves	The aim of this policy is to ensure that London has adequate and appropriate wharf capacity to meet the city's needs for more than 11 mt of waterborne freight handling capacity up to 2050. The policy sets out requirements to define the boundaries of safeguarded wharves and explore opportunities for new development.	No Likely Significant Effect This is a management policy which provides for safeguarding of wharves so

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
GLE11 Circular economy	The aim of this policy is to support the move to a more Circular Economy that reduces London's resource footprint and makes best use of embodied carbon as part of net zero transition. The policy sets out aims for developments to be net zero waste at construction stage, to provide circular economy statements and to seek to provide circular economy infrastructure.	that land is not lost to alternative uses, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways. No Likely Significant Effect This is a positive management policy which sets out the aims of developments to be zero waste at the construction stage, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE12 Waste	The aim of this policy is to plan for sufficient waste infrastructure capacity and support a move towards net waste self-sufficiency and improved waste sustainability. The policy sets out requirements for development plans to contribute to more sustainable waste management opportunities and to plan for the range of infrastructure required to manage and reduce waste.	No Likely Significant Effect This is a management policy to ensure waste capacity infrastructure is planned for, It does not lead directly to any development. It can be considered that at the Plan level there are no linking impact pathways.
GLE13 Aggregates and mineral sources	The aim of this policy is to ensure a steady and adequate supply of land-won aggregates within London up to 2050 and to deter any proposals for hydraulic fracturing ('fracking') in London. The policy sets out requirements to make provisions in those boroughs with landbank apportionments and in any location where fracking is proposed.	No Likely Significant Effect This is a management policy to ensure aggregate supply is planned for and that 'fracking' is deterred. It does not lead directly to any development.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
		It can be considered that at the Plan level there are no linking impact pathways.
GHR1 Energy efficiency	The aim of this policy is to ensure high levels of energy efficiency, minimise energy consumption and occupier bills and reduce greenhouse gas emissions towards a net zero-carbon London. The policy sets out requirements for developments to minimise energy consumption and maximise opportunities for renewable energy generation at the design stage and to monitor for at least five years post construction.	No Likely Significant Effect. This is a positive policy relating to net zero targets, which will result in a positive impact in managing level of greenhouse gases. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR2 Low cost low carbon heat	The aim of this policy is to ensure developments are supplied with the lowest cost, lowest carbon heating source and ensure that best use is made of waste heat. The policy sets out requirements to consider and investigate for optimum solutions, including contribution to and use of heat networks.	No Likely Significant Effect. This policy encourages the use of low cost, low carbon heating sources in developments. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR3 Whole life carbon	The aim of this policy is to assess and reduce the upfront and whole life-cycle carbon associated with development and construction. The policy sets out requirements for developments to aim to meet aspirational embodied carbon emission targets to reduce upfront and whole-life carbon (WLC) emissions.	No Likely Significant Effect. This is a positive policy relating to net zero targets, which will result in a positive impact in managing level of greenhouse gases. The policy influences design choices for development covered under policies in the

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
		Plan but does not itself directly lead to development.
GHR4 Heat risk	The aim of this policy is to reduce contributions to the Urban Heat Island and reduce and mitigate overheating impacts on occupants. The policy sets out requirements to provide green and blue infrastructure to cool and provide shade, and to include in design and materials the need to minimise the build up and release of urban heat	No Likely Significant Effect. This is a positive policy relating to minimising the addition of heat to the local environment. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR5 Flood risk and drainage	The aim of this policy is to Ensure that new developments contribute to reducing London's surface water flood risk, improving resilience in a targeted way. The policy sets out requirements to manage surface water through on site measures and off-site measures through contributions to SuDS.	No Likely Significant Effect. This is a positive policy relating to minimising surface water run-off. Surface water run-off carries the risk of leading to pollution of waterways which may impact Habitats Sites, reduction of it may therefore have a positive impact. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR6 Trees, biodiversity and geodiversity	The aim of this policy is to protect designated sites for nature and existing trees of value and to promote the provision of new and enhanced habitats including London's urban forest, as part of development.	No Likely Significant Effect. This is a positive policy protecting designated sites for nature and existing green infrastructure.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
	The policy sets out requirements to protect veteran trees, increase canopy coverage, designate sites of nature importance, improve access to nature.	The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR7 Green Infrastructure and Urban Greening Factor	The aim of this policy is to secure multi-functional urban greening of sites and buildings. The policy sets out requirements to protect existing green infrastructure and require the use of the Urban Greening Factor (UGF) to demonstrate how appropriate amounts and types of greening have been incorporated into designs.	No Likely Significant Effect. This is a positive policy promoting protection and enhancement of green infrastructure. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR8 Accessible green space	The aim of this policy is to improve access to greenspace, accounting for ideas of deficiency and local green infrastructure policies. The policy sets out requirements to ensure there is no loss of public green space and that developments should contribute to the provision of additional green space where they create a demand,	No Likely Significant Effect. This is a positive policy promoting protection and enhancement of green infrastructure. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR9 Clean and healthy waterways	The aim of this policy is to secure clean and healthy waterways that positively contribute to London's recovery, health, resilience, inclusivity, character and identity.	No Likely Significant Effect. This is a positive policy designed to maintain waterways as natural corridors. The policy influences design choices for development covered under policies in the

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
	The policy sets out requirements to perform water quality assessments, conserve the open character and heritage of waterways, and ensure natural corridors are not infringed upon.	Plan but does not itself directly lead to development.
GHR10 Air quality	The aim of this policy is to ensure new developments help improve local air quality, reduce the extent to which Londoners are exposed to poor air quality and work towards meeting the World Health Organizations (WHO's) air quality guidelines. The policy sets out requirements to contribute to London's strategic approach to tackling poor air quality including an Air Quality Positive approach should be applied to development proposals that are subject to Environmental Impact Assessment or located in the CAZ.	No Likely Significant Effect. This is a positive policy designed to improve air quality. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
GHR11 Cycle and Car Parking	The aim of this policy is to facilitate cycling and limit car parking in new development to reduce car use and enable optimisation of sites. The policy sets out requirements to include well designed cycle parking in development proposals.	No Likely Significant Effect. This is a positive policy designed to increase the use of sustainable transport and reduce car use. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development.
PV1 Brownfield first Opportunity Areas (BFOAs)	The aim of this policy is to designate Opportunity Areas with strategic growth potential that require significant and pro-active co-ordination and support to overcome barriers to delivery. The policy sets out requirements for plans and proposals to develop on BFOAs	Likely Significant Effect This policy is designed to increase reuse of previously developed land. BFOA references Annex 1 which indicatives indicative capacities for homes and employment and therefore contributes to the overall growth targets.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
PV2 Central Activities Zone (CAZ)	The aim of this policy is to sustain and enhance the CAZ as the thriving, vibrant, innovative and iconic heart of London and the powerhouse of the UK economy, promoting its unique international and national roles, whilst enhancing its world-renowned heritage assets and natural environment. The policy sets out requirements to manage and support development which promotes and expands the ongoing viability of the CAZ.	This policy is 'screened in' due to potential for development under this policy. The policy influences design choices for development covered under policies in the Plan but does not itself directly lead to development. Likely Significant Effect The supporting text for this policy provides some specificity on broad areas for employment space delivery. For the most part the defined areas are remote from Habitats Sites and the overall focus on the role of the Draft London Plan (and the Mayor's agencies) in these zones includes improvement/delivery of public transport, which will be positive for air quality. This policy is 'screened in' due to potential for development under this policy. It is discussed in the appropriate assessment for Epping Forest SAC and Lee Valley SPA/Ramsar site respectively. Overall, the policy may have positive air quality effects, subject to additional scrutiny of specific emerging proposals at the Local Plan and planning application stages.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
PV3 Town centres and high streets	The aim of this policy is to promote the vitality and viability of town centres and high streets with a diverse range of commercial, civic and social infrastructure uses and housing. The policy sets out requirements to enhance existing town centres with reference to employment, housing, amenities, infrastructure and mixed-use development.	No Likely Significant Effect This policy promotes the enhancement of London's town centres. The policy promotes mixed use or residential development within or on the edges of the town centres however at this level it does not specify location or quantity of housing to be delivered and therefore, impact cannot be assessed at this level. It can be considered that at the Plan level there are no linking impact pathways.
PV4 Strategic economic clusters and corridors	The aim of this policy is to support the growth and evolution of strategically important clusters of economic activity that are located outside of the CAZ, Northern Isle of Dogs, town centres and designated industrial areas. The policy sets out guidance on proposals for economic development which will be supported.	No Likely Significant Effect This is a general policy which gives guidance for the support of economic developments in specified areas. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.
PV5 Industrial land supporting housing growth	The aim of this policy is to support housing growth and delivery in industrial locations that are suitable for housing. The policy sets out guidance on the release of land from SIS or LSIS locations for housing.	No Likely Significant Effect This is a general policy which gives guidance for the support of housing development on industrial land.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
		It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.
PV6 Metropolitan Open Land (MOL)	The aim of this policy is to establish the purposes of MOL, provide a framework for its protection and a positive strategy for its enhancement, together with mechanisms for boundary alterations where specific tests are met. The policy sets out requirements for the management and protection of MOL, limiting development on MOL to that which is directly related to existing infrastructure or otherwise beneficial to the MOL.	No Likely Significant Effect This is a general policy which gives guidance on the requirements for the support of development on MOL. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.
PV7 Sustainable development and enhancement of the green belt	The aim of this policy is to ensure that any Green Belt releases within Greater London are focused in the most sustainable locations and are optimised to minimise the amount of land required to address unmet need, provide sustainable patterns of development which enable necessary infrastructure and prevent low density, land-greedy and unsustainable forms of development. The policy sets out requirements to protect the green belt by ensuring there is a strategic need for the development and that any development meets the London Green Belt sustainable design criteria with the nationally set Golden Rules.	No Likely Significant Effect This is a general policy which gives guidance for the retention and enhancement of the green belt. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.

Policy Name	Brief Policy Description	Potential Likely Significant Effect?
PV8 Strategic and local views including the London View Management Framework	The aim of this policy is to support development that enables London to grow and change while preserving and enhancing London's most strategic and important views that contribute to the city's identity, including supporting the Outstanding Universal Value (OUV) of London's World Heritage Sites. The policy sets out requirements to maintain the visual aspects of designated views.	No Likely Significant Effect This is a general policy which gives guidance for the retention of designated views. It does not directly lead to development and does not provide specific locations or targets for development. It can be considered that at the Plan level there are no linking impact pathways.

Appendix C Details of Habitats Sites

C.1 Burnham Beeches SAC

Introduction⁹⁷

This site is an extensive area of the Burnham Plateau where the Thames gravels give rise to acid soils, which support mature and developing woodland, old coppice, scrub and heath.

Reasons for designation⁹⁸

This site is designated as an SAC due its Annex I habitats as follows:

- Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion roburi-petraeae* or *Ilici-Fagenion*)

Conservation Objectives⁹⁹

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
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely

Environmental Vulnerabilities¹⁰⁰

- Air pollution: risk of atmospheric nitrogen deposition
- Public access/disturbance
- Habitat fragmentation
- Deer
- Species decline
- Invasive species

⁹⁷ Available at: <https://publications.naturalengland.org.uk/file/5144585550430208> [Accessed 27/03/2026]

⁹⁸ ibid

⁹⁹ Available at: <https://publications.naturalengland.org.uk/file/5680758811525120> [Accessed 27/03/2026]

¹⁰⁰ Available at: <https://publications.naturalengland.org.uk/file/5957026125447168> [Accessed 27/03/2026]

C.2 Epping Forest SAC

Introduction¹⁰¹

Approximately 70% of the 1,600 hectare site consists of broadleaved deciduous woodland, and it is one of only a few remaining large-scale examples of ancient wood-pasture in lowland Britain. Epping Forest SAC supports a nationally outstanding assemblage of invertebrates, a major amphibian interest and an exceptional breeding bird community.

Qualifying Features¹⁰²

Epping Forest qualifies as a SAC for both habitats and species.

- Beech forests on acid soils with Ilex and sometime *Taxus* in the shrublayer.
- Wet heathland with cross-leaved heath; and
- Dry heath
- Stag beetle *Lucanus cervus*

Conservation Objectives¹⁰³

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

Environmental Vulnerabilities¹⁰⁴

The main threats and activities with impacts on the site are:

- Air pollution,
- Under grazing,
- Public disturbance,
- Changes in species distribution,
- Inappropriate water levels,
- Water pollution,
- Invasive species, and
- Disease.

¹⁰¹ Available at: <https://publications.naturalengland.org.uk/file/5153389482606592> [Accessed 27/03/2026]

¹⁰² Ibid

¹⁰³ Available at: <https://publications.naturalengland.org.uk/file/5442443424301056> [Accessed 27/03/2026]

¹⁰⁴ Available at: <https://publications.naturalengland.org.uk/file/5732004727881728> [Accessed 27/03/2026]

C.3 Lee Valley Ramsar

Introduction¹⁰⁵

The Lee Valley Ramsar comprises a series of embanked water supply reservoirs, sewage treatment lagoons and former gravel pits along approximately 24km of the valley. These waterbodies support internationally important numbers of wintering gadwall and shoveler and nationally important numbers of several other bird species.

The site also contains a range of wetland and valley bottom habitats, both man-made and semi-natural, which support a diverse range of wetland fauna and flora.

Qualifying Features¹⁰⁶

The Ramsar is designated for the following features:

- Criterion 2: The site supports the nationally scarce whorled watermilfoil *Myriophyllum verticillatum* and the rare or vulnerable invertebrate *Micronecta minutissima* (a waterboatman).
- Criterion 6: Over winter the site regularly supports internationally important populations of: Gadwall *Ansa strepera*, Shoveler *Anas clyptea*

Conservation Objectives

The legal conservation status is as defined for;

- Lee Valley SPA.

Environmental Vulnerabilities

Environmental vulnerabilities are taken to be the same as those for Lee Valley SPA.

C.4 Lee Valley SPA

Introduction¹⁰⁷

The Lee Valley SPA comprises a series of embanked water supply reservoirs, sewage treatment lagoons and former gravel pits that display a range of man-made and semi-natural wetland and valley bottom habitats.

Qualifying Features¹⁰⁸

The SPA is designated for the following features:

- Bittern *Botaurus stellaris* (Wintering)
- Shoveler *Anas clyptea* (Wintering)
- Gadwall *Anas strepera* (Wintering)

¹⁰⁵ Available at: <https://rsis.ramsar.org/RISapp/files/RISrep/GB1037RIS.pdf> [Accessed 27/03/2026]

¹⁰⁶ [ibid](#)

¹⁰⁷ Available at: <https://publications.naturalengland.org.uk/file/6230224169598976> [Accessed 27/03/2026]

¹⁰⁸ [ibid](#)

Conservation Objectives¹⁰⁹

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Environmental Vulnerabilities¹¹⁰

The main threats and activities with impacts on the site are:

- Water pollution,
- Hydrological Changes,
- Public Access/ Disturbance,
- Inappropriate scrub control,
- Fisheries: Fish stocking,
- Invasive species,
- Inappropriate cutting/ mowing, and
- Air pollution: risk of atmospheric nitrogen deposition.

C.5 Mole Gap to Reigate Escarpment SAC

Introduction¹¹¹

Woodland, chalk grassland, chalk scrub and heathland form an interrelated mosaic at this site on the North Downs.

Qualifying Features¹¹²

The SAC is designated for the following features:

- *Taxus baccata* woods of the British Isles.
- *Asperulo-Fagetum* beech forests.
- European dry heaths
- Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (Dry grasslands and scrublands on chalk or limestone).

¹⁰⁹ Available at: <https://publications.naturalengland.org.uk/file/6516586265706496> [Accessed 27/03/2026]

¹¹⁰ Available at: <https://publications.naturalengland.org.uk/file/5788502547496960> [Accessed 27/03/2026]

¹¹¹ Available at: <https://publications.naturalengland.org.uk/file/6434400132661248> [Accessed 27/03/2026]

¹¹² *ibid*

- Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (important orchid sites). (Dry grasslands and scrublands on chalk or limestone, including important orchid sites)*
- Bechstein's bat *Myotis bechsteinii*
- Great crested newt *Triturus cristatus*

Conservation Objectives¹¹³

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- 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.

Environmental Vulnerabilities¹¹⁴

The main threats and activities with impacts on the site are:

- Disease,
- Changes in Land Management,
- Public Access/ Disturbance,
- Inappropriate scrub control, and
- Air pollution: risk of atmospheric nitrogen deposition.

C.6 Richmond Park SAC

Introduction¹¹⁵

Richmond Park has been managed as a royal deer park since the seventeenth century, producing a range of habitats of value to wildlife. In particular, Richmond Park is of importance for its diverse deadwood beetle fauna associated with the ancient trees found throughout the parkland. Many of these beetles are indicative of ancient forest areas where there has been a long continuous presence of over-mature timber. The site is at the heart of the south London centre of distribution for stag beetle *Lucanus cervus*.

Qualifying Features¹¹⁶

The SAC is designated for the following features:

- Stag beetle *Lucanus cervus*.

¹¹³ Available at: <https://publications.naturalengland.org.uk/file/5690871244914688> [Accessed 27/03/2026]

¹¹⁴ Available at: <https://publications.naturalengland.org.uk/file/6256378880458752> [Accessed 27/03/2026]

¹¹⁵ Available at: <https://publications.naturalengland.org.uk/file/6461808806199296> [Accessed 27/03/2026]

¹¹⁶ *ibid*

Conservation Objectives¹¹⁷

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- 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.

Environmental Vulnerabilities¹¹⁸

No current issues affecting the Natura 2000 feature(s) have been identified on this site.

C.7 South West London Waterbodies SPA

Introduction¹¹⁹

The South West London Waterbodies SPA comprises a series of embanked water supply reservoirs and former gravel pits that support a range of man-made and semi-natural open-water habitats.

Qualifying Features¹²⁰

The SPA is designated for the following features:

- Gadwall *Ana strepera*,
- Shoveler *Anas clypeata*.

Conservation Objectives¹²¹

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Environmental Vulnerabilities¹²²

The main threats and activities with impacts on the site are:

¹¹⁷ Available at: <https://publications.naturalengland.org.uk/file/5521612917178368> [Accessed 27/03/2026]

¹¹⁸ Available at: <https://publications.naturalengland.org.uk/file/4641498714865664> [Accessed 27/03/2026]

¹¹⁹ Available at: <https://publications.naturalengland.org.uk/file/6663157678342144> [Accessed 27/03/2026]

¹²⁰ *ibid*

¹²¹ Available at: <https://publications.naturalengland.org.uk/file/5411059804667904> [Accessed 27/03/2026]

¹²² Available at: <https://publications.naturalengland.org.uk/file/5135484288237568> [Accessed 27/03/2026]

- Public Access/ Disturbance,
- Changes in species distribution,
- Invasive species,
- Natural changes to site conditions,
- Fisheries: Fish stocking, and
- Inappropriate weed control.

C.8 Thames Basin Heaths SPA

Introduction¹²³

The open heathland habitats overlie sand and gravel sediments which give rise to sandy or peaty acidic soils, supporting dry heathy vegetation on well-drained slopes, wet heath on low-lying shallow slopes and bogs in valleys. The site consists of tracts of heathland, scrub and woodland, once almost continuous, but now fragmented into separate blocks by roads, urban development and farmland. Less open habitats of scrub, acidic woodland and conifer plantations dominate, within which are scattered areas of open heath and mire. The site supports important breeding populations of a number of birds of lowland heathland, especially nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea*, both of which nest on the ground, often at the woodland/heathland edge, and Dartford warbler *Sylvia undata*, which often nests in gorse *Ulex spp.* Scattered trees and scrub are used for roosting.

Qualifying Features¹²⁴

The SPA is designated for the following features:

- Nightjar *Caprimulgus europaeus*;
- Woodlark *Lullula arborea*; and
- Dartford warbler *Sylvia undata*.

Conservation Objectives¹²⁵

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

¹²³ Available at: <https://publications.naturalengland.org.uk/file/6402779023147008> [Accessed 27/03/2026]

¹²⁴ *ibid*

¹²⁵ Available at: <https://publications.naturalengland.org.uk/file/5048458801315840> [Accessed 27/03/2026]

Environmental Vulnerabilities¹²⁶

The main threats and activities with impacts on the site are:

- Public access and disturbance,
- Undergrazing,
- Forestry and woodland management,
- Hydrological changes,
- Inappropriate scrub control,
- Invasive species,
- Wildfire/ arson,
- Air pollution: impact of atmospheric nitrogen deposition,
- Feature location/ extent/ condition unknown
- Military, and
- Habitat fragmentation.

C.9 Thames Estuary and Marshes Ramsar

Introduction¹²⁷

A complex of brackish, floodplain grazing marsh ditches, saline lagoons and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl. The saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates.

Qualifying Features¹²⁸

The Ramsar is designated for the following features:

- Criterion 2: The site supports one endangered plant species and at least 14 nationally scarce plants of wetland habitats. The site also supports more than 20 British Red Data Book invertebrates.
- Criterion 5: Assemblages of international importance, peak count in winter of 45,118 waterfowl.
- Criterion 6: Species/populations occurring at levels of international importance. Species with peak counts in spring/autumn: Ringed plover *Charadrius hiaticula*, Black-tailed godwit *Limosa limosa islandica*. Species with peak counts in winter: Grey plover *Pluvialis squatarola*, Red knot *Calidris canutus islandica*, Dunlin *Calidris alpina alpina*, Common redshank *Tringa totanus tetanus*.

Conservation Objectives

The legal conservation status is as defined for;

¹²⁶ Available at: <https://publications.naturalengland.org.uk/file/5946121331408896> [Accessed 27/03/2026]

¹²⁷ Available at: <https://rsis.ramsar.org/RISapp/files/RISrep/GB1037RIS.pdf> [Accessed 27/03/2026]

¹²⁸ [ibid](#)

- Thames Estuary and Marshes SPA.

Environmental Vulnerabilities

Environmental vulnerabilities are taken to be the same as those for Thames Estuary and Marshes SPA.

C.10 Thames Estuary and Marshes SPA

Introduction¹²⁹

A complex of brackish, floodplain grazing marsh ditches, saline lagoons and intertidal saltmarsh and mudflat. These habitats together support internationally important numbers of wintering waterfowl.

Qualifying Features¹³⁰

The SPA is designated for the following features:

- A082 Hen harrier *Circus cyaneus* (Non-breeding);
- A132 Pied avocet *Recurvirostra avosetta* (Non-breeding);
- A137 Ringed plover *Charadrius hiaticula* (Non-breeding);
- A141 Grey plover *Pluvialis squatarola* (Non-breeding);
- A143 Red knot *Calidris canutus* (Non-breeding);
- A149 Dunlin *Calidris alpina alpina* (Non-breeding);
- A156 Black-tailed godwit *Limosa limosa islandica* (Non-breeding);
- A162 Common redshank *Tringa totanus* (Non-breeding);
- Waterbird assemblage.

Conservation Objectives¹³¹

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- The extent and distribution of the habitats of the qualifying features
- The structure and function of the habitats of the qualifying features
- The supporting processes on which the habitats of the qualifying features rely
- The population of each of the qualifying features, and,
- The distribution of the qualifying features within the site.

Environmental Vulnerabilities¹³²

The main threats and activities with impacts on the site are:

¹²⁹ Available at: <https://publications.naturalengland.org.uk/file/3344896> [Accessed 27/03/2026]

¹³⁰ [ibid](#)

¹³¹ Available at: <https://publications.naturalengland.org.uk/file/3346937> [Accessed 27/03/2026]

¹³² Available at: <https://publications.naturalengland.org.uk/file/5135484288237568> [Accessed 27/03/2026]

- Air pollution: risk of atmospheric nitrogen deposition,
- Coastal squeeze,
- Public access and disturbance,
- Invasive species,
- Changes in species distribution,
- Fisheries: Commercial marine and estuarine, and
- Vehicles: Illicit.

C.11 Thursley, Ash, Pirbright & Chobham SAC

Introduction¹³³

The heathland is a series of large fragments of previously more continuous areas and is principally dominated by heather – dwarf gorse (*Calluna vulgaris* – *Ulex minor*) dry heathland. There are transitions to wet heath and valley mire, scrub, woodland and acid grassland, including types rich in annual plants. This habitat supports an important assemblage of animal species, including numerous rare and local invertebrate species, including the nationally rare white-faced darter *Leucorhinia dubia*, as well as sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*.

This site supports the sole area of lowland northern Atlantic wet heath in south-east England. The wet heath at Thursley is mainly cross-leaved heath – bog-moss (*Erica tetralix* – *Sphagnum compactum*) and contains several rare plants, including great sundew *Drosera anglica*, bog hair-grass *Deschampsia setacea*, bog orchid *Hammarbya paludosa* and brown beak-sedge *Rhynchospora fusca*.

Depressions on peat substrates are widespread, both in bog pools, mires and in flushes where they occur as part of a mosaic associated with valley bog and wet heath. They show extensive representation of brown-beak.

Qualifying Features¹³⁴

The SAC is designated for the following features:

- Atlantic acidophilous beech forests with Ilex and sometimes also *Taxus* in the shrublayer (*Quercion roburi-petraeae* or *Illici-Fagenion*). (Beech forests on acid soils)
- Old acidophilous oak woods with *Quercus robur* on sandy plains. (Dry oak-dominated woodland)
- Violet click beetle *Limoniscus violaceus*

Conservation Objectives¹³⁵

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;

¹³³ Available at: <https://publications.naturalengland.org.uk/file/6503438829486080> [Accessed 27/03/2026]

¹³⁴ Ibid

¹³⁵ Available at: <https://publications.naturalengland.org.uk/file/4677991053656064> [Accessed 27/03/2026]

- Depressions on peat substrates of the *Rhynchosporion*,
- European dry heaths, and
- Northern Atlantic wet heaths with *Erica tetralix*.

Environmental Vulnerabilities¹³⁶

The main threats and activities with impacts on the site are:

- Public access and disturbance,
- Undergrazing,
- Forestry and woodland management,
- Hydrological changes,
- Inappropriate scrub control,
- Invasive species,
- Wildfire/ arson,
- Air pollution: impact of atmospheric nitrogen deposition,
- Feature location/ extent/ condition unknown
- Military, and
- Habitat fragmentation.

C.12 Wimbledon Common SAC

Introduction¹³⁷

Approximately 70% of the 1,600 hectare site consists of broadleaved deciduous woodland, and it is one of only a few remaining large-scale examples of ancient wood-pasture in lowland Britain. Epping Forest SAC supports a nationally outstanding assemblage of invertebrates, a major amphibian interest and an exceptional breeding bird community.

Qualifying Features¹³⁸

Epping Forest qualifies as a SAC for both habitats and species.

- Beech forests on acid soils with *Ilex* and sometime *Taxus* in the shrublayer.
- Wet heathland with cross-leaved heath; and
- Dry heath
- Stag beetle *Lucanus cervus*

¹³⁶ Available at: <https://publications.naturalengland.org.uk/file/5106041196904448> [Accessed 27/03/2026]

¹³⁷ Available at: <https://publications.naturalengland.org.uk/file/5779849067102208> [Accessed 27/03/2026]

¹³⁸ Ibid

Conservation Objectives¹³⁹

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

Environmental Vulnerabilities¹⁴⁰

The main threats and activities with impacts on the site are:

- Public disturbance,
- Habitat fragmentation,
- Invasive species, and
- Air pollution: impact of atmospheric nitrogen deposition.

C.13 Windsor Forest and Great Park SAC

Introduction¹⁴¹

Windsor Forest contains dry oak-dominated woodland. Relicts of the primary forest still survive as ancient oak pollards scattered throughout the Park and Forest. Veteran trees occur with a mosaic of unimproved and semi-improved grassland and grass-heath. It has the largest number of ancient oaks *Quercus spp.* in Britain (and probably in Europe), a consequence of its management as wood-pasture. Many of these trees are over 500 years old and some reputed to be up to 800 years. Of equal importance, although not reaching such a great age, are numerous over-mature beech trees *Fagus sylvatica*.

Being partially hollow and decayed, the oaks and beech afford habitats for a number of extremely rare and specialised insects. The site is of importance for its range and diversity of saproxylic (dead wood) invertebrates, including many rare species (e.g. the violet click beetle *Limoniscus violaceus*), and has recently been recognised as having rich fungal assemblages.

Qualifying Features¹⁴²

The SAC is designated for the following features:

- Atlantic acidophilous beech forests with Ilex and sometimes also *Taxus* in the shrublayer (*Quercion robur-petraeae* or *Ilici-Fagenion*). (Beech forests on acid soils)
- Old acidophilous oak woods with *Quercus robur* on sandy plains. (Dry oak-dominated woodland)

¹³⁹ Available at: <https://publications.naturalengland.org.uk/file/6215672493506560> [Accessed 27/03/2026]

¹⁴⁰ Available at: <https://publications.naturalengland.org.uk/file/5097829219434496> [Accessed 27/03/2026]

¹⁴¹ Available at: <https://publications.naturalengland.org.uk/file/6277427382714368> [Accessed 27/03/2026]

¹⁴² Ibid

- Violet click beetle *Limoniscus violaceus*

Conservation Objectives¹⁴³

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
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely

Environmental Vulnerabilities¹⁴⁴

The main threats and activities with impacts on the site are:

- Forestry and woodland management,
- Invasive species,
- Disease, and
- Air pollution: risk of atmospheric nitrogen deposition.

C.14 Wormley-Hoddesdonpark Woods SAC

Introduction¹⁴⁵

Wormley Hoddesdonpark Woods has large stands of almost pure hornbeam *Carpinus betulus* (former coppice), with sessile oak *Quercus petraea* standards. Areas dominated by bluebell *Hyacinthoides non-scripta* do occur, but elsewhere there are stands of great wood-rush *Luzula sylvatica* with carpets of the mosses *Dicranum majus* and *Leucobryum glaucum*. Locally, a bryophyte community more typical of continental Europe occurs, including the mosses *Dicranum montanum*, *D. flagellare* and *D. tauricum*.

Qualifying Features¹⁴⁶

The SAC is designated for the following features:

- Sub-Atlantic and medio-European oak or oak-hornbeam forests of the *Carpinion betuli*. (Oak-hornbeam forests).

Conservation Objectives¹⁴⁷

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

¹⁴³ Available at: <https://publications.naturalengland.org.uk/file/6569964010209280> [Accessed 27/03/2026]

¹⁴⁴ Available at: <https://publications.naturalengland.org.uk/file/5106041196904448> [Accessed 27/03/2026]

¹⁴⁵ Available at: <https://publications.naturalengland.org.uk/file/5608903748354048> [Accessed 27/03/2026]

¹⁴⁶ Ibid

¹⁴⁷ Available at: <https://publications.naturalengland.org.uk/file/4515961222987776> [Accessed 27/03/2026]

- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely

Environmental Vulnerabilities¹⁴⁸

The main threats and activities with impacts on the site are:

- Disease,
- Invasive species,
- Air pollution: risk of atmospheric nitrogen deposition,
- Deer,
- Vehicles: illicit,
- Forestry and woodland management, and
- Public access/ disturbance.

¹⁴⁸ Available at: <https://publications.naturalengland.org.uk/file/6541134543192064> [Accessed 27/03/2026]

PreparedFor: Greater London Authority