

**HABITATS REGULATIONS
ASSESSMENT SCREENING OF
WOKING BOROUGH COUNCIL'S
DRAFT CORE STRATEGY POLICIES
WITH POTENTIAL FOR IMPACTS ON
NATURA 2000 AND RAMSAR SITES**

WOKING BOROUGH COUNCIL

HRA SCREENING REPORT

December 2011

**HABITATS REGULATIONS
ASSESSMENT SCREENING OF
WOKING BOROUGH COUNCIL'S
DRAFT CORE STRATEGY POLICIES
WITH POTENTIAL FOR IMPACTS ON
NATURA 2000 AND RAMSAR SITES**

WOKING BOROUGH COUNCIL

HRA SCREENING REPORT

December 2011

Project Code: WBCSAC11B.9
Prepared by: Andrea Hughes – Mayer Brown/Chris Stapleton –
Environmental Planner/Derek Finnie - Bioscan
Issue Date: December 2011.
Status: FINAL Rev 4

**HABITATS REGULATIONS ASSESSMENT SCREENING OF WOKING BOROUGH
COUNCIL'S
DRAFT CORE STRATEGY POLICIES WITH POTENTIAL FOR IMPACTS ON NATURA
2000 AND RAMSAR SITES
HRA SCREENING REPORT**

Contents

1.	INTRODUCTION.....	1
2.	BASELINE CONDITIONS.....	8
3.	EVALUATION METHODOLOGY – PHASE I.....	24
4.	SCREENING.....	31
5.	RESIDENTIAL/DELIVERY FRAMEWORK PARA 4.9 ENCROACHMENT.....	41
6.	OTHER URBAN ENCROACHMENT	42
7.	CATCHMENT HYDROLOGY.....	43
8.	CATCHMENT HYDROGEOLOGY	45
9.	DIRECT POLLUTION	47
10.	ATMOSPHERIC POLLUTION	48
11.	TRANSBOUNDARY AND CUMULATIVE IMPACTS.....	57
12.	ECOLOGICAL APPRAISAL OF FINDINGS	62
13.	EVALUATION METHODOLOGY PHASE II.....	64
14.	RESULTS OF STUDY.....	65
15.	RECOMMENDATIONS	68
	REFERENCES	70

**HABITATS REGULATIONS ASSESSMENT SCREENING OF WOKING BOROUGH
COUNCIL'S
DRAFT CORE STRATEGY POLICIES WITH POTENTIAL FOR IMPACTS ON NATURA
2000 AND RAMSAR SITES
HRA SCREENING REPORT**

List of Figures

Figure 1:	Proposed and Existing SANG
Figure 2:	SPA / SAC / Ramsar 20km Boundary
Figure 3:	All Proposed Core Strategy Development Areas
Figure 3a:	Proposed Core Strategy Residential Areas
Figure 3b:	Proposed Core Strategy Employment Areas
Figure 3c:	Proposed Core Strategy Retail Development Areas
Figure 4:	Woking Borough Catchment Hydrology
Figure 5a:	Woking Borough Catchment Hydrogeology – Bedrock
Figure 5b:	Woking Borough Catchment Hydrogeology - Superficial

List of Tables

Table 1:	WBC Avoidance Strategy SANG
Table 2:	South East Plan Appropriate Assessment 2006 – Potential Adverse Effects
Table 3:	SPA, SAC and Ramsar Sites Located within 20km of Woking Town Centre
Table 4:	Conceptual Model for Potential Impacts on SPA / SAC / Ramsar Sites
Table 5:	SPA / SAC / Ramsar Objectives and Indicators
Table 6:	Screening of Core Strategy for Policy Redrafting
Table 6a:	Policies Screened Out Prior to the Technical Screening
Table 7:	Technical Screening of Core Strategy Policies
Table 8:	Atmospheric Pollutants
Table 9:	Assessment of Impacts as a Percentage of the Critical Load at 5m from the Road Centreline
Table 10:	Assessment of PEC as a Percentage of the Critical Load at 5m from the Road Centreline
Table 11:	Major Developments/Infrastructure in Adjacent Boroughs
Table 12:	Summary of Protections Measures for SPA, SAC and Ramsar Sites

List of Appendices

Appendix A	SAC / SPA / Ramsar Maps and Citations
Appendix B	Flow Chart of HRA Screening Process
Appendix C	Traffic Analysis
Appendix D	Air Quality Analysis and Assumptions

1. INTRODUCTION

Planning and Development Context

- 1.1 Within the South East Plan (1) Woking is designated as a “Centre for Significant Change”, a Regional Hub due to its importance as a centre of economic activity and as a transport interchange. Woking, and particularly the town centre, is expected to be a focus for improvements to the transport network and other infrastructure, and for major retail and employment developments. At present, however, there are no major transport schemes of cross-boundary significance to WBC.
- 1.2 The South East Plan was revoked on July 2010, but as a result of a High Court decision in November 2010 it has been reinstated as a material consideration in planning matters, at least until such time as the Localism Bill receives Royal Consent.
- 1.3 The South East Plan requires Woking to provide for an average of 292 dwellings per annum in the plan period to 2026. On revocation of the plan WBC had in any case decided to retain the target of 292 dwellings per annum, because this is considered to be a reasonable level of housing growth, given the demand for housing and the environmental constraints in and around the Borough. Therefore, the reinstatement of the South East Plan has no significant implications for housing in Woking Borough.
- 1.4 In the context of this reinstated regional guidance, the Local Development Framework (LDF) for Woking Borough comprises the following Development Plan Documents (DPDs):
 - The Draft Core Strategy (November 2010) (2);
 - The Site Allocations DPD (3) (not yet completed); and
 - The Development Management Policies DPD (4) (not yet completed).
- 1.5 The Local Development Scheme (LDS) currently includes a number of Supplementary Planning Documents (SPDs):
 - The Statement of Community Involvement;
 - Parking Standards; and
 - Outlook, Amenity, Privacy and Daylight.
- 1.6 In due course, Woking Borough Council also plans to produce the following SPDs:

- An SPA SPD;
- A Planning Obligations SPD;
- An Affordable Housing SPD; and possibly
- A Design SPD.

Core Strategy

- 1.7 Woking Borough Council has undertaken a number of studies to inform the Local Development Framework (including an Employment Land Review, a Strategic Land Availability Assessment, a Strategic Flood Risk Assessment and a Green Spaces Development Plan), and the Draft Core Strategy is a key document in the LDF process. The evidence base is summarised in Appendix 1 of the Draft Core Strategy, and the HRA screening has been carried out with reference to this information, where appropriate.
- 1.8 According to the Draft Core Strategy, car ownership is very high. Only 15% of households do not have a car, compared with 27% nationally. The volume of traffic continues to increase and there is a recognised need to reduce travel by private vehicles and to increase sustainable forms of transport.
- 1.9 Woking Borough comprises a compact urban area surrounded by Green Belt and other environmentally sensitive designations including Ramsar sites, the Thames Basin Heath Special Protection Area and Special Areas of Conservation. This places restrictions on the scale and location of certain types of development and the need for special impact avoidance measures set out in WBC's "Thames Basin Heaths Special Protection Area Avoidance Strategy 2010 to 2015" (June 2010) (5). This document is based on guidance set out in the "Thames Basin Heaths Special Protection Area Delivery Framework" (February 2009) (6), published by the Thames Basin Heaths Joint Strategic Partnership Board (JSPB), of which WBC is a member.
- 1.10 The Suitable Alternative Natural Greenspace (SANG) that represent an SPA impact specific avoidance measure in the Avoidance Strategy are also a component of the open spaces and green infrastructure designed to serve the wider needs of people occupying and using the proposed developments in the Borough.
- 1.11 According to Spatial Strategy Policy CS1, and as confirmed by WBC in May 2011, there will be 4,964 new dwellings (292 per year) during the remaining plan period. Other development comprises:
- 4964 new dwellings (an annual average of 292 per annum) during the remaining plan period;

- 28,000 m² additional office floorspace - there will not be any land requirement for office development as it is anticipated this will come through replacement and intensification of existing Town Centre sites (including mixed use sites), with around 1,000 m² in West Byfleet.
 - 20,000 m² additional B8 floorspace - expected to be through redevelopment of sites within the employments areas.
 - A loss of 31,000m² B2 floorspace (the majority is likely to be lost to B8 in the employment areas and the remainder to B1 use potentially in the Butts Road/Poole Road area) – information about this can be found in CS14.
 - 93,900m² Additional Retail Floorspace across the borough (majority in Woking Town Centre)
- 1.12 Woking Town Centre will be the primary focus for development. Most of the new development envisaged within the Core Strategy will take place within town, district, local and neighbourhood centres and employment areas, which are within the existing urban areas. The basic centralised pattern of settlement will remain unchanged and this will reduce the need to travel, and minimise increases in traffic along main roads that cross or run adjacent to Natura 2000 and Ramsar sites and minimise impacts on biodiversity.
- 1.13 Cross boundary issues of relevance to this study are the coordination of transport matters across Woking and Surrey, large scale developments close to the Borough boundary, and the strategic protection of the Thames Basin Heaths SPA and other SPA/SAC and Ramsar sites in neighbouring Boroughs.
- 1.14 WBC submitted its first Core Strategy to the Government in October 2006. The policies in this Core Strategy had been screened and adjusted as necessary to ensure that they would not have a significant impact on SPA and SAC in and around the Borough. However, following changes to PPS3 in November 2006 and March 2007, the Council withdrew the first Core Strategy and the document was never adopted.
- 1.15 Due to changes in national and regional policy, therefore, all of the policies within the Council's subsequent Draft Core Strategy have changed. For example, the number of anticipated new dwellings per annum has increased from 242 to 292 units. This has introduced some policies with implications that had not been considered for species (flora and fauna) that are of biodiversity value in respect of the qualifying criteria, conservation objectives, coherence and integrity of SPA, SAC and Ramsar sites in and around Woking Borough.

- 1.16 Because of this a Habitats Regulations Assessment screening has been carried out to screen the policies in the Draft Core Strategy to determine whether they will have a significant impact on SPA, SAC and Ramsar sites in and around Woking Borough. Should any potential significant impacts be identified, an Appropriate Assessment would have to be carried out by WBC (as the competent authority) under the terms of The Conservation of Habitats and Species Regulations, 2010 (7). This HRA Screening report covers the Draft Core Strategy only, but as stated, this particular Development Plan Document is a key part of Woking's Local Development Framework.

Sustainability Appraisal of the Draft Core Strategy

- 1.17 Sustainability Appraisal (SA) of the Core Strategy is a requirement of the Planning and Compensation Act (2004).
- 1.18 The SA of the Draft Core Strategy has informed the policies and proposals of the Draft Core Strategy and concluded that the quantum of development envisaged in Spatial Strategy Policy CS1 can be managed without impact on SPA/SAC and Ramsar sites, because of the concentration of development within existing urban areas and the availability of Suitable Alternative Natural Greenspace (SANG) to implement the Avoidance Strategy.

Protection of European Habitats in the LDF Process

- 1.19 The HRA Screening of the Draft Core Strategy under the Conservation of Habitats and Species Regulations, 2010 compliments the Sustainability Appraisal of the Draft Core Strategy, with specific reference to the potential biodiversity effects of Draft Core Strategy policies on SPA/SAC and Ramsar sites in and around Woking Borough. The HRA Screening addresses the possible need for policy adjustments and further impact avoidance measures in addition to avoidance and mitigation measures already identified by the SA. It also determines whether an Appropriate Assessment is required for some policies.
- 1.20 The HRA Screening will help to ensure that SPA /SAC and Ramsar sites within the zone of influence of WBC's planning decisions are protected and enhanced, according to the terms of the European Directive 92/43/EEC (The Habitats Directive) (8) as transposed into UK law by The Conservation of Habitats and Species Regulations 2010.
- 1.21 Article 6 (paragraph 3) of the Habitats Directive (8) states:

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

the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”

1.22 Article 6 (paragraph 4) of the Habitats Directive (8) states:

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

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.”

1.23 Regulation 61 of The Conservation of Habitats and Species Regulations 2010 (7) states that:

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

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

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

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

1.24 Regulation 102 of The Conservation of Habitats and Species Regulations 2010 (7) specifically relates to land use plans. It states that:

“Where a land use plan –

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

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

the plan-making authority for that plan must, before the plan is given effect, make an appropriate assessment of the implications for that site in view of that site’s conservation objectives.”

Different Approaches to SPA and SAC/Ramsar sites

1.25 Different approaches to SPA and SAC/Ramsar sites are required because of the particular importance of potential informal recreational and other

residential paragraph 4.9 development (as defined in the Thames Basins Heaths Delivery Framework - hereafter known as para 4.9 development) encroachment impacts on the Thames Basin Heaths SPA. These impacts arise from development and in particular from housing policies for net new dwellings and a subsequent increase in population.

- 1.26 Map 1 of Woking’s Avoidance Strategy shows that all land in the Borough is within 5km of a component of the Thames Basin Heaths SPA, and potential additional recreational and other residential/para 4.9 encroachment impacts apply within this 5 km Zone of Influence, as recognised in the “Thames Basin Heaths Special Protection Area Delivery Framework”.
- 1.27 These potential recreational and other residential/para 4.9 encroachment impacts have been addressed by WBCs “Avoidance Strategy for the period from 2010 to 2015” and the provision of sufficient Suitable Alternative Natural Greenspace (SANG) of appropriate quality to match the increase in population. The SANG that represent an SPA impact specific avoidance measure in WBC’s Avoidance Strategy are shown in Table 1 below.

Site	Location	Size (ha)
Existing SANG		
Brookwood Country Park	Western Part of Borough	20.0
Hoe Valley Rose Lane	Central part of Borough	8.2
Horsell Common, Monument Road (part of Common not designated as SPA)	North/Central part of Borough	28.0
Proposed SANG		
Martins Press, High Street, Old Woking	South/Central part of Borough	13.0
Heather Farm to Mimbridge (Joint SANG with Surrey Heath Borough Council)	North/Central part of Borough	To be confirmed
The Hoe Valley Scheme	Central part of Borough	4.06

Table 1: WBC Avoidance Strategy SANG

- 1.28 The locations of these SANG are shown on Figure 1.
- 1.29 A number of third party owned potential SANG have not been included within the Avoidance Strategy as they await the determination of outstanding applications. It is understood that the Avoidance Strategy will be updated as the proposed SANG come into use. When WBC consulted Natural England on this, it was determined that an Appropriate Assessment is not required in respect of potential residential/para 4.9 encroachment impacts of Draft Core Strategy policies on SPA.
- 1.30 It is assumed that all Borough members of the Thames Basin Heaths Joint Strategic Partnership Board have Avoidance Strategies that provide sufficient protection of SPA from the residential/para 4.9 encroachment effects of developments within their respective Core Strategies.
- 1.31 The Avoidance Strategies are designed specifically for SPA, but the protection provided by Woking's Avoidance Strategy also coincidentally applies to all joint SPA/SAC within and adjacent to Woking Borough in respect of their qualifying criteria for receptors sensitive to residential/para 4.9 encroachment impacts arising from new development.
- 1.32 In any event, there are no proposed developments in Woking Borough, which are further than 5km from an SPA (and do not therefore have to provide SANG) which are, however, close to a habitat designated as SAC/Ramsar site only. Windsor Forest and Great Park is the only sole SAC designation close to the extended 7km limit (as the crow flies and from the edge of the Woking settlement) for residential/para 4.9 encroachment impacts for larger developments of over 50 dwellings referred to in the "Thames Basin Heaths Special Protection Area Delivery Framework". Within the Core Strategy period, relatively small developments may take place at the Lakeview Estate (Goldworth Park) and Horsell local centre, and these would be about 14.5km (as the crow flies) from Windsor Forest and Great Park SAC.
- 1.33 In view of these considerations, it was necessary for the HRA Screening to consider only the pathways for other potential other urban encroachment impacts (hydrology/hydrogeology, direct pollution, increasing traffic levels and indirect pollution) potentially arising from Draft Core Strategy policies on the integrity of the qualifying criteria for SPA, SAC and Ramsar sites. Hereafter these are referred to as other urban encroachment impacts.
- 1.34 It was envisaged that the HRA screening would be carried out in two phases, but the second phase (Appropriate Assessment) has proved to be unnecessary.

2. BASELINE CONDITIONS

- 2.1 The assessment of impacts has been undertaken with reference to baseline conditions that would be anticipated in the absence of developments set out in the Core Strategy for Woking Borough.
- 2.2 Given that WBC has decided to implement the target of an average of 292 dwellings per annum in the plan period to 2026 indicated in the South East Plan, the Appropriate Assessment of the Draft South East Plan (Final Report: Volume 2, (October 2006) (9) remains generally relevant. The Appropriate Assessment indicated a number of **potential** adverse effects on European Sites within the initial HRA Screening Study Area due to the South East Plan, as set out in Table 2 below.

Site	Water Abstraction	Recreational Pressure	Region-Wide Air Pollution	Local Traffic Air Pollution	Urbanisation
Special Areas of Conservation					
Mole Gap to Reigate Escarpment		Yes	Yes	Yes	Yes
Thursley, Ash, Pirbright and Chobham	Yes	Yes	Yes	Yes	Yes
Windsor Forest and Great Park			Yes		
Special Protection Areas					
South West London Water Bodies	Yes	Yes			
Thames Basin Heaths	Yes	Yes	Yes	Yes	Yes
Wealden Heaths Phase I - Thursley, Hankley and Frensham Commons	Yes	Yes	Yes	Yes	Yes
Ramsar Sites					
South West London Water	Yes	Yes			

Bodies					
Thursley and Ockley Bogs	Yes	Yes	Yes	Yes	Yes

Table 2: South East Plan Appropriate Assessment 2006 – Potential Adverse Effects

2.3 It should be noted that all of these potential impacts have been covered by the HRA Screening.

Impact Study Areas

2.4 The geographical zone of influence within the SPA, SAC and Ramsar sites is likely to be different for each of the potential residential/para 4.9 encroachment and other urban encroachment impacts. For example, the hydrology and hydrogeology study areas will extend over larger areas than the nitrogen enrichment study area, which will be focussed on road corridors passing through or close to SAC / SPA.

Woking Borough’s Zone of Influence for Residential/para 4.9 Encroachment Impacts

2.5 Given a general presumption against development within 400m of an SPA, the Thames Basin Heaths SPA Delivery Framework refers to a Zone of Influence, which is defined as the area between 400m and 5km from the perimeter of an SPA (as the crow flies). This is extended to 7km for residential developments of over 50 dwellings, and this applies to potential residential/para 4.9 encroachment impacts only.

2.6 Most of the proposed development in Woking Borough’s Draft Core Strategy is centred on the existing urban area. Because of this, Woking Borough’s Avoidance Strategy is considered applicable to land within a radius of 7km from Woking’s Town Square, around which most of the traffic movements (i.e. the one of the main impact mechanism for potential residential/para 4.9 encroachment impacts) take place. The Zone of Influence for residential/para 4.9 encroachment impacts is extended where the 7km radius is centred on two proposed larger scale residential developments outside of the built up area at Brookwood Farm to the west and Moor Lane to the south, as identified in the Draft Core Strategy.

Study Area for Other Urban Encroachment Impacts

- 2.7 Other urban encroachment pathways and impacts comprise hydrology, hydrogeology, direct pollution and pollutant deposition as a result of traffic increases. In identifying SPA, SAC and Ramsar sites which might be affected by these potential impacts, a wider 20km radius around Woking Town Square was initially considered.
- 2.8 This distance is referred to in draft guidance published by Natural England in “The Habitats Regulations Assessment of Local Development Documents”, 2009 (10) in relation to the specific consideration of impacts on SPA, SAC and Ramsar sites arising from major (i.e. regional or national) visitor attractions within 20km of a plan area. There do not appear to be any such major visitor attractions within 20km of Woking Borough, but the 20km distance represents a reasonable and generally accepted cut-off for initial screening purposes, in respect of a study area for potential other urban encroachment impacts.
- 2.9 As stated, most of the anticipated development will be within the existing central urban area of Woking town. Furthermore, there is a high concentration of population in the many settlements within a 20km radius of Woking town. Because of this, there is likely to be a geographical overlap in any other urban encroachment impacts arising from developments in and around these built up areas. For these reasons, the initial 20km study area has been measured from Woking’s Town Square, rather than from the boundary of Woking Borough.
- 2.10 By extending the study area to consider SPA, SAC and Ramsar sites within neighbouring Boroughs, this HRA Screening covers the potential trans-boundary and cumulative other urban encroachment impacts on SPA/SAC and Ramsar in adjacent Boroughs arising from developments in Woking Borough.
- 2.11 Where such other urban encroachment impacts are anticipated on SPA, SAC and Ramsar sites close to Borough boundaries, the combined effects of developments from all contiguous Allocations Plans will have to be considered at the more site specific level to ensure that they do not exceed a critical threshold in terms of significant effects on conservation features.
- 2.12 A combined approach by the Boroughs (similar to the Thames Basin Heaths Joint Strategic Partnership Board) in respect of residential/para 4.9 encroachment impacts is required to address potential cumulative other urban encroachment impacts on SPA/SAC close to Borough boundaries at the more site specific Allocations Plan stage.

Screening of potential residential Impacts on European Sites in Boroughs Around Woking

- 2.13 The SPA, SAC and Ramsar Sites located within 20km of Woking Town Centre (and the approximate centre of Woking Borough) are shown on Figure 2 and listed in Table 3 below.
- 2.14 There are unlikely to be any significant recreational effects arising from WBC's Core Strategy on European sites in the boroughs around Woking. This is because of the journey distances along indirect routes and the additional SANG and green infrastructure being provided to Natural England's "Accessible Natural Greenspace Standard" (ANGSt) within Woking Borough and the other authorities within the 20km study area,
- 2.15 The main considerations for each of these European sites are set out below.
- Windsor Forest and Great Park SAC*
- 2.16 This area is designated for its old acidophilous oak woodland (Annex I habitat) on a sandy soil. It has the largest number of veteran oaks *Quercus* spp. in Britain, and possibly in Europe. Additionally it is of importance for its range and diversity of saproxylic invertebrates and is recognised as having rich fungal assemblages. The site is also thought to support the largest of the known populations of Violet click beetle (*Limoniscus violaceus*) in the UK.
- 2.17 Windsor Forest and Great Park is a SAC designation close to the extended 7km limit from Woking, as the crow flies. The roads between Woking and Windsor Forest and Great Park (via Chobham and Broomhill) are not direct and involve a journey of about 14km to the nearest car park at Blacknest off the A329.
- 2.18 The next closest car parks at Forest Lodge and Ranger Lodge are about 18 to from Woking (via Chobham, Broomhill and Cheapside) off the A332 (18.5 km Sheet Street Road). These are relatively small car parks with limited capacity
- 2.19 A survey carried out in 1993 (Bellringer A, and Gillam S. 1998. Forestry Commission) found that visitors tend to live up to about 8km away on average, but it does not identify where they came from. Given the indirect roads between Woking, and the travel distance to Windsor Forest and Great Park, it is reasonable to conclude that these visitors are more likely to be from the closer surrounding settlements of Bracknell, Maidenhead, Windsor and Egham than from Woking.
- 2.20 Relatively small developments in Woking at Lakeview Estate (Goldworth Park) and Horsell local centre are the closest developments to Windsor

Forest and Great Park SAC envisaged during the Core Strategy period. These developments would be about 14.5km (as the crow flies) from the SAC.

- 2.21 In view of these considerations, it is appropriate that residential/para 4.9 encroachment on this SAC is covered by the Bracknell, Windsor and Maidenhead Avoidance Strategies in combination with other greenspace provision directed at increased public access, dog walking and the appreciation of nature in these boroughs.
- 2.22 Given the scale of additional open space provision in Bracknell, Windsor and Maidenhead, it is considered that adverse effects are unlikely to result from any increase in recreational visitors arising from Woking Borough, particularly in view of the large proportion of woodland and grass parkland in the SAC. This offers opportunities for the management of visitors in more robust designated habitat areas where visitor pressure can be managed effectively for recreation, whilst protecting the qualifying species.

Mole Gap to Reigate Escarpment SAC

- 2.23 This site supports the only area of stable box scrub (*xerothermophilous* formations with *Buxus sempervirens*) in the UK and has good conservation of habitat structure and function. It also supports a wide range of calcareous grassland types on steep slopes, and is particularly important for rare vascular plants, including orchids. Yew *Taxus baccata* woodland occurs here in extensive stands, with, in places, an understory of box *Buxus sempervirens* at one of its few native locations.
- 2.24 Mole Valley and Reigate & Banstead do not have any designated SPAs. The closest SPA components to Mole Valley are at a distance of about 3.7km in Elmbridge and Guildford Borough Councils.
- 2.25 According to the initial Appropriate Assessment carried out by Mole Valley District Council on its emerging Core Strategy in 2008, the recreational pressure on the Mole Gap and Reigate Escarpment SAC occurs mainly around “honey pot” locations, characterised primarily by tourist visits rather than regular visits by local residents. Visitor surveys have shown that the majority of the visitors arrive via the M25 from Leatherhead and South London.
- 2.26 Residential/para 4.9 encroachment on this SAC is not covered by an Avoidance Strategy. However, PPG17 assessments for Mole Valley show that, for the most part, outdoor recreation is well provided for with significant areas of natural and semi-natural greenspace available to local residents, and provision in most of the district meets the ANGSt standard. Within Reigate

and Banstead there are some local deficiencies in open space, but outdoor recreation is generally well catered for although there are some localised deficiencies.

- 2.27 Most of this SAC is within (to just within) 20km of Woking Town Centre, with populated residential areas at Cobham, Great Bookham and Leatherhead on the indirect road links between Woking and this SAC. Visitors from Woking are unlikely to travel this distance along this route for informal recreation, given the alternatives available to them.
- 2.28 Box Hill is the main visitor attraction with car parks along its south-western margin and a well established country park owned and managed by the National Trust about 22 miles from Woking. The only significant area of heathland is Headley Heath off Headley Common Road, just to the south of Headley. The two car parks giving access to this heathland are about 35km from Woking. This is beyond the distance that visitors from the Woking area are likely to travel for informal recreation.
- 2.29 Furthermore, SANG provision within Woking Borough and other surrounding Boroughs are likely to absorb potential recreational impacts arising from the WBC and other Core Strategies. Therefore, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is not considered to be likely to have a significant effect on the SAC. The large proportion of woodland and the presence of the National Trust country park offer opportunities for the management of visitors in more robust designated habitat areas where visitor pressure can be managed effectively for recreation, whilst protecting the qualifying species.

Thursley, Hankley and Frensham Commons (Wealden Heaths Phase 1) SPA & Thursley/Ockley Bogs Ramsar & Thursley SAC

- 2.30 This site is primarily designated for European nightjar (*Caprimulgus europaeus*), the Woodlark (*Lullula arborea*) and the Dartford Warbler (*Sylvia undata*). Additionally there are lowland Northern Atlantic wet heaths with gorse (*Erica tetralix*). Thursley contains several rare plants, including great sundew (*Drosera anglica*), bog hair-grass (*Deschampsia setacea*), bog orchid (*Hammarbya paludosa*) and brown beak-sedge (*Rhynchospora fusca*). It is an important site for invertebrates, including the nationally rare white-faced darter (*Leucorhinia dubia*).
- 2.31 There are European dry heaths which support an important assemblage of animal species, including numerous rare and local invertebrate species, Dartford warbler (*Sylvia undata*), sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). This site also has ground surface depressions *Rhynchosporion* on peat substrates.

- 2.32 Part of the SAC is within 20km of Woking Town Centre, with populated residential areas at Guildford and Godalming on the indirect road link between Woking and this site. Visitors from Woking are unlikely to travel this distance along this route for informal recreation, given the alternatives available to them.
- 2.33 Residential/para 4.9 encroachment on this site is covered by the Waverley Avoidance Strategy, and SANG provision within Woking Borough are likely to absorb potential recreational impacts arising from the WBC Core Strategy. Therefore, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is not considered to be likely to have a significant effect on the site.

SW London Waterbodies SPA and Ramsar

- 2.34 Staines Moor SSSI is primarily designated for Northern Shoveller (*Anas clypeata*) and Gadwall (*Anas strepera*). Staines Moor represents the largest area of alluvial meadows in Surrey and supports a rich flora while the reservoirs hold nationally important populations of wintering wildfowl. A pond at the site carries an aquatic flora which is of national importance, and this flora includes brown galingale (*Cyperus fuscus*) which is an extremely rare plant in Britain.
- 2.35 This SPA is within 20km of Woking Town Centre. The populated residential areas at Chertsey and Staines lie along the indirect road route between Woking and this SPA. Most of the components of this SPA consist of open water bodies. The area with the habitats most likely to be subject to impacts from visitor pressure is Staines Moor. However, access to this area is via the car park off Stanwell Road between Horton and Poyle, and this involves a journey of just over 20km from Woking via the M25.
- 2.36 Furthermore, access to the semi-natural stretch of the River Colne on Staines Moor from this car park and along the Colne Valley Way involves a return distance walk of about 4km, which is beyond the limit for most casual walkers.
- 2.37 The Windsor and Maidenhead, Runnymede and Elmbridge Avoidance Strategies apply, in combination with other greenspace provision directed at increasing public access, dog walking and the appreciation of nature in these areas. Thus, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/boroughs is unlikely to be significant.

Richmond Park SAC

- 2.38 This site is designated for stag beetle (*Lucanus cervus*), due to the presence of a large number of ancient trees with decaying timber. It is at the heart of the south London centre of distribution for the species, and is a site of national importance for the conservation of the fauna of invertebrates associated with the decaying timber of ancient trees.
- 2.39 This SAC is beyond 20km of Woking Town Centre, and there are extensive populated residential areas on the south-west fringe of Greater London between Woking and this SAC. Therefore, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/boroughs is unlikely to be significant.
- 2.40 The London Borough of Richmond does not have a SPA. Ockham and Wisley Commons SPA is the closest SPA component at a distance of about 18km. Therefore this Borough does not have an Avoidance Strategy. However, SANG provision within Woking Borough and other boroughs to the South-West of London are likely to absorb potential recreational impacts arising from the WBC and other Core Strategies. Residential/para 4.9 encroachment on this SAC is also covered by greenspace provision that meets the ANGSt standard in the context of PPG17 requirements.
- 2.41 This includes those parts of the park which offer opportunities for the management of visitors restricted to designated areas where visitor pressure can be managed effectively for recreation, whilst protecting the qualifying species.

Wimbledon Common SAC

- 2.42 This site is also primarily designated for stag beetle (*Lucanus cervus*), due to the presence of a large number of old trees and much fallen decaying timber. It is also at the heart of the South London centre of distribution for the species, and the site supports a number of other scarce invertebrate species associated with decaying timber. The Annex I habitats, Northern Atlantic wet heaths with heather (*Erica tetralix*) and European dry heaths are also present.
- 2.43 This SAC is largely beyond 20km of Woking Town Centre, and there are extensive populated urban areas on the south-west fringe of Greater London between Woking and this SAC. Therefore, the residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is unlikely to be significant.
- 2.44 The London Borough of Merton does not have SPA sites. Ockham and Wisley Commons SPA is the closest SPA component at a distance of about 20km. Therefore this Borough does not have an Avoidance Strategy.

However, SANG provision within Woking Borough and other boroughs to the South-West of London are likely to absorb potential recreational impacts arising from the WBC and other Core Strategies. Residential/para 4.9 encroachment on this SAC is also covered by greenspace provision that meets the ANGSt standard in the context of PPG17 requirements.

2.45 This includes those parts of the Common which offer opportunities for the management of visitors restricted to designated areas where visitor pressure can be managed effectively for recreation, whilst protecting the qualifying species.

Area No.	SPA/Ramsar Name	SAC/Ramsar Name	Technical Screening	Notes
1	Ockham & Wisley Commons SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology; and Direct Pollution. 	Car Park within 7km of Woking Town Centre Woking Avoidance Strategy applies Residential/para 4.9 Encroachment on SPA thus covered
2	Horsell Common SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology; Direct Pollution; and Increased Traffic (1000 or more Annual Average Daily Traffic) & Nitrogen Enrichment. 	Within 7km of Woking Town Centre Woking Avoidance Strategy applies Residential/para 4.9 Encroachment on SPA thus covered
3	Whitmoor Common SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology; Direct Pollution; and Increased Traffic (1000 or more Annual Average Daily Traffic) & Nitrogen Enrichment. 	Within 7km of Woking Town Centre Woking Avoidance Strategy applies Residential/para 4.9 Encroachment on SPA thus covered
4	Ash to Brookwood Heaths SPA (Sheets Heath at Brookwood is SPA only)	Thursley, Ash* , Pirbright and Chobham SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology; Direct Pollution; and Increased Traffic (1000 or more Annual Average Daily Traffic) & Nitrogen Enrichment. 	Small part within 7km of Woking Town Centre where Woking Avoidance Strategy applies Guildford and Surrey Heath Avoidance Strategies apply to larger part beyond 7km All within 7km of proposed residential/para 4.9

				development at Brookwood Farm and Woking Avoidance Strategy also applies to this quantum of housing/population increase Residential/para 4.9 Encroachment on SPA thus covered
5	Colony Bog and Bagshot Heath SPA	Thursley, Ash, Pirbright* and Chobham SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology; and Increased Traffic (1000 or more Annual Average Daily Traffic) & Nitrogen Enrichment. 	Largely just beyond 7km of Woking Town Centre Surrey Heath Avoidance Strategy applies But all within 7km of proposed residential/para 4.9 development at Brookwood Farm and Woking Avoidance Strategy applies to this quantum of housing/population increase Residential/para 4.9 Encroachment on SPA thus covered
6	Broadmoor to Bagshot Woods & Heaths SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology 	Beyond 7km of Woking Town Centre where Bracknell Forest Avoidance Strategy applies Most within 7km of proposed residential/para 4.9 development at Brookwood Farm and Woking Avoidance Strategy applies to this quantum of housing/population increase. Residential/para 4.9 Encroachment on SPA thus covered
7	Chobham Common	Thursley, Ash, Pirbright and	<ul style="list-style-type: none"> Hydrology/Hydrogeology. 	Part within 7km of Woking Town Centre

		Chobham* SAC		where Woking Avoidance Strategy applies Part Beyond 7km of Woking Town Centre where Surrey Heath Avoidance Strategy applies Residential/para 4.9 Encroachment on SAC is covered by the Woking and Surrey Heath Avoidance Strategies
8	Not SPA	Windsor Forest and Great Park SAC	<ul style="list-style-type: none"> • Residential/para 4.9 Encroachment?and • Hydrology/Hydrogeology. 	<p>Relatively small developments at Lakeview Estate (Goldworth Park) and Horsell local centre are the closest developments to Windsor Forest and Great Park SAC during the Core Strategy period.</p> <p>These developments would be about 9 miles (as the crow flies) from the SAC.</p> <p>Residential/para 4.9 Encroachment on SAC covered by the Bracknell Windsor and Maidenhead Avoidance Strategy in combination with other greenspace provision to meet the ANGSt standard in the context of PPG17 requirements.</p>
9	Not SPA	Mole Gap to Reigate Escarpment SAC	<ul style="list-style-type: none"> • Residential/para 4.9 Encroachment; and • Hydrology/Hydrogeology; 	Mole Valley and Reigate & Banstead do not have SPA. The closest SPA components to Mole Valley are at a distance of about 3.7km in Elmbridge and Guildford Borough

				<p>Councils.</p> <p>Residential/para 4.9 Encroachment on this SAC is covered by greenspace provision which meets the ANGSt standard in the context of PPG17 requirements.</p> <p>Most of this SAC is within (to just within) 20km of Woking Town Centre, with populated residential areas at Cobham, Great Bookham and Leatherhead on the indirect road links between Woking and this SAC. Most of the land in this designated area is woodland.</p> <p>Therefore, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is unlikely to be significant.</p>
10	Wealden Heaths Phase I SPA - Thursley SPA & Thursley/Ockley Bogs Ramsar	Thursley* , Ash, Pirbright and Chobham SAC & Thursley/Ockley Bogs Ramsar	<ul style="list-style-type: none"> • Residential/para 4.9 Encroachment? and • Hydrology/Hydrogeology. 	<p>Part of the SAC is within 20km of Woking Town Centre, with populated residential areas at Guildford and Godalming on the most direct road link between Woking and this SAC. Thus, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is unlikely to be significant.</p> <p>Residential/para 4.9</p>

				Encroachment on SAC is covered by the Waverley Avoidance Strategy
11	South West London Waterbodies SPA and Ramsar site	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology; 	<p>Within 20km of Woking Town Centre. Windsor and Maidenhead, Runnymede and Elmbridge Avoidance Strategies apply.</p> <p>Also, populated residential areas at Chertsey and Staines on the most direct road link between Woking and this SPA. Thus, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is unlikely to be significant.</p>
12	Not SPA	Richmond Park SAC	<ul style="list-style-type: none"> Residential/para 4.9 Encroachment; and Hydrology/Hydrogeology. 	<p>This SAC is beyond 20km of Woking Town Centre, and there are extensive populated residential areas on the south-west fringe of Greater London between Woking and this SAC.</p> <p>The cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is unlikely to be significant.</p> <p>The London Borough of Richmond does not have SPA. Ockham and Wisley Commons SPA is the closest SPA component at a distance of about 18km.</p>

				<p>Therefore this Borough does not have an Avoidance Strategy.</p> <p>Instead, Residential/para 4.9 Encroachment on this SAC is covered by greenspace provision which meets the ANGSt standard in the context of PPG17 requirements.</p>
13	Not SPA	Wimbledon Common SAC	<ul style="list-style-type: none"> • NB Residential/para 4.9 Encroachment; and • Hydrology/Hydrogeology. 	<p>This SAC is largely beyond 20km of Woking Town Centre, and there are extensive populated urban areas on the south-west fringe of Greater London between Woking and this SAC. Therefore, the cumulative residential/para 4.9 encroachment effect from Woking Borough and other neighbouring districts/Boroughs is unlikely to be significant.</p> <p>The London Borough of Merton does not have SPA. Ockham and Wisley Commons SPA is the closest SPA component at a distance of about 20km. Therefore this Borough does not have an Avoidance Strategy.</p> <p>Instead, Residential/para 4.9 Encroachment on this SAC is covered by greenspace provision which meets the ANGSt standard in the context of PPG17 requirements.</p>
14	Sandhurst to	Not SAC	<ul style="list-style-type: none"> • Hydrology/Hydrogeology. 	Beyond 7km of Woking

	Owlsmoor Bogs and Heaths SPA			Town Centre Residential/para 4.9 Encroachment on SAC covered by the Bracknell Forest Avoidance Strategy.
15	Castle Bottom to Yateley and Hawley Commons SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology. 	Beyond 7km of Woking Town Centre Residential/para 4.9 Encroachment on SAC covered by the Hart and Rushmoor Avoidance Strategies.
16	Eelmore Marsh SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology. 	Beyond 7km of Woking Town Centre. Residential/para 4.9 Encroachment on SAC covered by the Rushmoor (and possibly Hart) Avoidance Strategy(s).
17	Bourley and Long Valley SPA	Not SAC	<ul style="list-style-type: none"> Hydrology/Hydrogeology. 	Beyond 7km of Woking Town Centre. Residential/para 4.9 Encroachment on SAC covered by the Hart and Rushmoor Avoidance Strategy.

* Denotes named component of composite Thursley, Ash, Pirbright and Chobham SAC

Table 3. SPA, SAC and Ramsar Sites Located within 20km of Woking Town Centre

Sensitive Receptors

2.46 For the purpose of this study, a 'sensitive receptor' is defined as those features contained in either Annex I or II of the Habitats Directive in respect of SACs, Annex I of the Birds Directive or significant numbers of migratory bird species in terms of SPAs and present on Natura 2000 site within 20km of the centre of Woking. Sensitive receptors for Ramsar Sites are present in the relevant Ramsar Information Sheet (RIS). These features represent the conservation objectives for which these sites were designated. Protection of these features from both direct and indirect adverse impacts will therefore ensure the integrity of the designated sites.

- 2.47 Appendix A provides maps and citations with descriptions of the habitat types, species and sensitive receptors identified as present on SPA, SAC and Ramsar sites within the 20km study area and relevant to this assessment.
- 2.48 The main objective for the protection and enhancement of SPA, SAC and Ramsar sites within the study area is that: “All SAC should be maintained in-situ in a favourable condition where technically possible and environmentally sustainable. If this cannot be achieved, habitat should be maintained until compensation habitat has been created elsewhere in accordance with the Habitats Regulations.”

[Taken from Strategic Environmental Assessment and Biodiversity: Guidance for Practitioners June 2004(11)]

- 2.49 Objectives for the protection and enhancement of each individual SPA, SAC and Ramsar site are set out in the Natural England citations and statements of “favourability” condition for each of the individual Sites of Special Scientific Interest (SSSIs) that make up the SPA, SAC and Ramsar sites. The citations indicate the species (flora and fauna) that are of biodiversity value in respect of the conservation objectives, coherence and integrity of the SPA and SAC.
- 2.50 Further site details are published by the Joint Nature Conservation Committee (JNCC). These describe Habitats Directive Annex I and II features that are a primary reason for selection of the SPA, SAC and Ramsar sites, together with Annex I and II features present as a qualifying feature, but not a primary reason for selection of the site. Annex I relates to habitat types and Annex II relates to species of flora and fauna. The Natural England recorded ‘condition’ of a SSSI takes into account the specific features for which the site was designated.
- 2.51 For example, an Annex I habitat in some of the SAC areas around Woking Borough comprises depressions on peat substrates of the Rhynchosporion, where it occurs as part of a mosaic associated with valley bog and wet heath. The vegetation is found in natural bog pools of patterned valley mire and in disturbed peat of track-ways and former peat cutting.

3. EVALUATION METHODOLOGY – PHASE I

- 3.1 The methodology employed by this HRA Screening has been devised to implement the requirements of the Habitats Directive and Regulations within the LDF process, and the flow chart in Appendix B sets out the HRA Screening process.
- 3.2 All Draft Core Strategy policies have been considered for possible significant effects on the conservation objectives of SPA, SAC and Ramsar sites within the initial 20km study area. Policies have either been screened out as not likely to have a significant effect or identified as possibly or likely to have a significant effect in the absence of avoidance measures and therefore requiring adjusted policy wording or further technical screening analysis. This provides the overall basis to the evaluation of policy options for their potential impacts on existing baseline conditions. Other more detailed objectives are set out below.
- 3.3 Those policies which have to be considered for redrafting because of potential effects on SPA, SAC or Ramsar sites have been identified. Therefore, in order to avoid any potential significant effects some additional specific policy text has been suggested in Table 6. Further general generic changes have also been suggested in note 2 to Table 11. Finally, as a result of the technical screenings, where potential impacts relate to specific locations, the need for appropriate word changes has been highlighted.

Source-Pathway- Receptor Model

- 3.4 The assessment then identifies those policies which need to be subjected to further technical screening using the "Source-Pathway- Receptor" model. The pathway element of the model is the mechanism for the effects of any impacts on SPA/SAC receptors.
- 3.5 The pathways or mechanisms for effects on SPA/SAC are set out in Table 4 below and this study has assessed the potential direct and indirect impacts to the Annex I and II features (which represent the conservation objectives of the SPA/SAC) as a result of policies contained within the Draft Core Strategy.

Source	Pathway	Receptors
Implementation of LDF Policies	Residential/para 4.9 encroachment impacts	SAC/Ramsar Features
	Catchment hydrology	SPA/SAC/Ramsar Features
	Catchment hydrogeology	SPA/SAC/Ramsar Features

	Direct pollution	SPA/SAC/Ramsar Features
	Nitrogen enrichment from increased traffic	SPA/SAC/Ramsar Features

Table 4. Conceptual Model for Potential Impacts on SPA/SAC/Ramsar Sites

- 3.6 Where sensitive receptors present on an SPA, SAC or Ramsar site are found to be safe from the impacts of a Draft Core Strategy policy according to the technical screening, then it is possible to exclude the relevant policy from further consideration.
- 3.7 However, where the technical screening indicates that policies may have significant effects, they should be adjusted to ensure that any significant potential effects are avoided.
- 3.8 Should Phase I of this study conclude that a policy or policies are likely to have a significant effect upon an SPA, SAC or Ramsar site and cannot be adjusted, then an Appropriate Assessment would be required. A further phase of works (Phase II) would have to be undertaken to provide the information that WBC require in order to carry out an Appropriate Assessment.
- 3.9 In order for the policy in question to be retained, however, advice is provided on how it should be changed to demonstrate no significant impact on integrity.

Types of Impacts

- 3.10 The Draft Core Strategy policies could potentially have the following potential effects on SPA/SAC:

Residential/ Para 4.9 Encroachment

- recreational pressures including people pressure, trampling, eutrophication, and pet predation;
- fly tipping, release of non-native species; and
- fire-raising.

Other Urban Encroachment

- hydrology/hydrogeology (including water abstraction);
- direct pollution (e.g. proposed Part A and Part B Processes, landfill extensions, construction impacts); and
- increasing traffic levels by over 1000 Annual Average Daily Flows and causing airborne nitrogen enrichment of the soil.

Transboundary and Cumulative

- Transboundary and cumulative impacts.
- 3.11 According to the “source-pathway-receptor” model these impacts are also considered to be pathways or mechanisms for effects on SPA, SAC and Ramsar sites as discussed below.
- 3.12 Recreational impacts from development is considered in terms of those policies which promote an increase in the residential activity in the study area for developments in use classes C3 (including housing windfalls); together with C1 Hotels (accommodation of staff) and C2 Residential Institutions (accommodation of staff), employment, retail and formal leisure developments.
- 3.13 Recreational impacts are addressed through the following Core Strategy policies:
- CS1 (Spatial Strategy);
 - CS 2 (Woking Town Centre);
 - CS3 (West Byfleet);
 - CS4 (Local and Neighbourhood Centres and Shopping Parades); and
 - CS5 (Priority Places).
- 3.14 Map 1 of the Core Strategy is a key diagram summarising the strategy for the distribution of development in the Borough for the Core Strategy period. This shows that there will be no significant employment, retail and formal leisure development within 400m of an SPA, SAC or Ramsar site. The proposed Policy CS5 (Priority Places) employment area at the Lakeview Estate (Goldsworth Park) is less than 400m from Horsell Common SPA, but no significant development is planned in this location during the plan period.

- 3.15 Under Policy CS4 (Local and Neighbourhood Centres and Shopping Parades) there is a local centre at Horsell, but no specific development is referred to, and this area is approximately 500m from Horsell Common SPA.
- 3.16 Subject to the rewording of Policies CS1 and CS9 stating that there will be no residential development within 400m of an SPA, SAC or Ramsar site, para 4.9 encroachment can be scoped out of the HRA Screening.
- 3.17 As residential/ para 4.9 encroachment is covered by Woking's Avoidance Strategy, the HRA Screening focuses on potential other urban encroachment impacts (hydrology, hydrogeology, direct and indirect pollution etc) arising from Woking's Draft Core Strategy.

Designations: Objectives and Indicators

- 3.18 Objectives and ecological indicators have been identified to help determine whether proposed policies will be consistent with the protection and enhancement of the conservation features of importance to designated areas. The **objectives** and **indicators** in Table 5 are general principles and where appropriate, **targets** are used to quantify (or otherwise qualitatively evaluate in relative terms) anticipated changes to the conservation features of importance within the SPA, SAC and Ramsar habitats, as a result of the proposed policies.

SPA	
Planning & Ecological Objectives	Indicators
<ul style="list-style-type: none"> Enhance or maintain SPA at favourable conservation status. 	<ul style="list-style-type: none"> Reported Levels of damage to designated sites Conclusions of relevant specialist assessments Reported condition of SPA sites and their constituent SSSI units.
<p>UK Biodiversity Action Plan (BAP)</p> <ul style="list-style-type: none"> Meet or support UK Species Action Plan (SAP) objectives for species present on SAC areas that were part of the reason for its designation as an internationally important site Meet or support UK Habitat Action Plan (HAP) objectives for habitat types present on SAC areas that were part of the reason for its designation as an internationally important site 	<ul style="list-style-type: none"> Published reports from relevant lead partner/agency of the UK Biodiversity Partnership. Available information regarding species population/habitat extent and condition from local Wildlife Trusts, RSPB etc
SAC	
Planning & Ecological Objectives	Indicators
<ul style="list-style-type: none"> Meet SAC conservation objectives Achieve favourable condition of SAC areas 	<ul style="list-style-type: none"> Reported Levels of damage to designated sites Conclusions of relevant specialist assessments Reported condition of SAC sites and their constituent SSSI units.
<p>UK Biodiversity Action Plan (BAP)</p> <ul style="list-style-type: none"> Meet or support UK Species Action Plan (SAP) objectives for species present on SAC areas that were part of the reason for its designation as an internationally important site 	<ul style="list-style-type: none"> Published reports from relevant lead partner/agency of the UK Biodiversity Partnership. Available information regarding species population/habitat extent and condition from local Wildlife Trusts, RSPB etc

<ul style="list-style-type: none"> Meet or support UK Habitat Action Plan (HAP) objectives for habitat types present on SAC areas that were part of the reason for its designation as an internationally important site 	
<ul style="list-style-type: none"> Contribute to sustainable development Promote use of public transport and sustainable forms of transport such as walking and cycling as an alternative to the private car 	<ul style="list-style-type: none"> Compliance with local and national sustainability criteria
Ramsar Sites	
Planning & Ecological Objectives	Indicators
<ul style="list-style-type: none"> Avoid damage to Ramsar sites designated under the International Convention on Wetlands of International Importance especially as Waterfowl Habitat. 	<ul style="list-style-type: none"> Reported Levels of damage to designated sites Conclusions of relevant specialist assessments
<ul style="list-style-type: none"> Meet Ramsar conservation objectives as given in the Ramsar Information Sheets 	<ul style="list-style-type: none"> Reported condition of Ramsar sites and their constituent SSSI units.
<p>UK Biodiversity Action Plan (BAP)</p> <ul style="list-style-type: none"> Meet or support UK Species Action Plan (SAP) objectives for species present on Ramsar that were part of the reason for its designation as an internationally important site Meet or support UK Habitat Action Plan (HAP) objectives for habitat types present on Ramsar areas that were part of the reason for its designation as an internationally important site 	<ul style="list-style-type: none"> Published reports from relevant lead partner/agency of the UK Biodiversity Partnership. Available information regarding species population/habitat extent and condition from local Wildlife Trusts, RSPB etc

Table 5. SPA/SAC/Ramsar Objectives and Indicators

Impact Significance

- 3.19 An impact is said to be significant if it affects the integrity of a site or ecosystem. In terms of development control under the Habitats Directive a specific definition of 'integrity' is used as given as provided by 'Government

Circular:: biodiversity and geological conservation – statutory obligations and their impact within the planning system’ which is as follows:

“The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of the populations of the species for which it was classified.”

4. SCREENING

- 4.1 In order to advise on the need for policy changes or an Appropriate Assessment, an initial screening has been undertaken in Phase I of the HRA Screening to determine where potential impacts can be avoided by redrafting policies. This is followed by a technical screening for potential other urban encroachment impacts to complete Phase I. This leaves for Phase II only those policies that on detailed examination may still require Appropriate Assessment.

Phase I: Initial Screening of Core Strategy for Policy Redrafting

- 4.2 The policies from WBC's Draft Core Strategy have been passed through an initial screening to identify those policies that may have potential impacts on the integrity of SPA, SAC and Ramsar sites, and where the potential impacts can be avoided by WBC changing the wording of policies.
- 4.3 There are 23 Core Strategy policies, and 10 of these policies are considered to have the potential to affect SPA, SAC and Ramsar sites in and around Woking Borough, unless the wording of these policies is adjusted. These policies and the proposed adjustments are set out in Table 6, below.

Core Strategy Policy	Subject	Comments/ Recommended Changes or Re-Wording of Policy
CS1	Spatial Strategy	Refer to the need to protect SPA, SAC and Ramsar sites. Needs to include: "No residential development will be permitted within 400m of an SPA, SAC or Ramsar site." Green Infrastructure (referred to in policy CS15) should also include a reference to the Avoidance Strategy, and provision of sufficient SANG of appropriate quality
CS6	Green Belt	Refer to the need to protect SPA, SAC and Ramsar sites.
CS7	Biodiversity	The cross boundary issue of strategic protection for the Thames Basin Heaths SPA and other SPA, SAC and Ramsar sites in neighbouring Boroughs should (initially set out in paragraph 3.23) should be addressed in paragraph 6.13.

		<p>A new paragraph 5 could be added to say that:</p> <p>“Development will not be permitted within or affecting an SPA, SAC or Ramsar site, unless it meets the requirements of European Directive 92/43/EEC (The Habitats Directive), European Directive 79/409/EEC (The Birds Directive), The Conservation of Habitats and Species Regulations 2010, and The Wildlife and Countryside Act, 1981 as amended.”</p> <p>This protection applies to the consideration of potential direct pollution linkages between proposed developments and SPA, SAC or Ramsar sites.</p> <p>The Council has an avoidance Strategy involving the provision of sufficient SANG of appropriate quality that sets out how contributions will be calculated.”</p> <p>Paragraph 6.18 could be interpreted to mean that Natural England is responsible for Appropriate Assessment. However, WBC is the “competent authority”, and it is understood that the decision on the need for an Appropriate Assessment is the responsibility of WBC, after consulting Natural England and the Environment Agency.</p>
CS8	Flooding	<p>The following statement could be added to the text box for this policy:</p> <p><i>“In areas at risk of flooding, proposals (including any flood compensation proposals) with implications for biodiversity will be carefully considered for all levels of ecological designation. Where the development proposals are demonstrated to adversely affect an SPA, SAC or Ramsar site, permission will not be granted.”</i></p>
CS9	Housing	<p>This policy might usefully distinguish between the edge of urban area sites Brookwood Farm, Moor Lane and Green Belt Sites after 2021/22 (a sub-total of 1290 dwellings) on the one hand; and the 3,674 dwellings anticipated within the urban area. The former being a potentially more significant threat to biodiversity.</p>

		<p>According to WBC, depending on housing distribution and windfalls etc, all housing may be accommodated in the urban area.</p> <p>Refer to the need to protect SPA, SAC and Ramsar sites. This applies particularly on the urban edge and in the Green Belt.</p> <p>Needs to include: “No residential development will be permitted within 400m of an SPA, SAC or Ramsar site.”</p>
CS13	Gypsies/Travellers	<p>The precautionary principle in respect of the need to avoid significant impacts on SPA, SAC and Ramsar sites (in-combination with other relevant developments), is strictly applied.</p>
CS15	Infrastructure Delivery	<p>The Suitable Alternative Natural Greenspace (SANG) that represent an SPA impact specific avoidance measure in the Avoidance Strategy are also a component of the open spaces and green infrastructure designed to serve the wider needs of people occupying and using the proposed developments in the Borough.</p> <p>The first Paragraph could read:</p> <p>“The Council will work in partnership with infrastructure service providers and developers to ensure that the infrastructure needed to support development is provided in a timely manner to meet the needs of the community and to protect biodiversity.”</p> <p>This point could be added to the text box for Policy CS15.</p> <p>The text box has 4 bullet points. Perhaps a fifth bullet point could refer to the Avoidance Strategy and SANG as part of the green infrastructure</p>
CS16	Open Space, Green Infrastructure, Sport and Recreation	<p>A new paragraph 4 could be added to say that:</p> <p><i>“the effects of visitor displacement from areas of lost open space on SPA/SAC should be assessed and found to be compliant with The Conservation of Habitats and Species Regulations 2010, and The Wildlife and Countryside Act, 1981 as</i></p>

		<p>amended.”</p> <p>The final paragraph in the text box for this policy could read:</p> <p>“New residential units within five km of an SPA will be required to provide or contribute to the provision and improvement of sufficient Suitable Alternative Natural Greenspace (SANG) which is a component of green infrastructure. This land will be used to avoid the impact and effect of residential development on the SPA, by providing informal recreation land of appropriate quality across Woking Borough.</p> <p>In paragraph 6.141, the following sentence should be changed to add:</p> <p>“SANG must be of the appropriate quality to attract informal recreation users....”</p> <p>Finally text could be added to state “This policy recognises the importance of linking green infrastructure to SANG for the effective functioning of SANG.”</p>
CS17	Transport and Accessibility	<p>The first paragraph in the text box for this policy should read:</p> <p>“The Council is committed to developing a well integrated community connected by a sustainable transport system which connects people to jobs, services and community facilities and minimises impacts on biodiversity, this will be achieved by....”</p> <p>Further text could be added to state that “Development will only be permitted where:</p> <ul style="list-style-type: none"> • <i>Car parking provision on or adjacent to an SPA, SAC or Ramsar site or any other measure facilitating transport to such a site demonstrates that they will not result in an increase of recreational pressure on the protected site.</i> • <i>Changes made to transport infrastructure or increase in road vehicle usage will not have an adverse effect on the integrity of an SPA, SAC or Ramsar site.”</i>

CS20	Design	A ninth bullet point should be added: <ul style="list-style-type: none"> ensure provision of well designed SANG, where necessary

Table 6: Screening of Core Strategy for Policy Redrafting

4.4 Following the policy rewording, 11 of the Core Strategy policies (some reworded) are screened out prior to the technical screening, for reasons set out in Table 6a, below.

Core Strategy	Subject	Reason for Screening Out Policy
CS7	Biodiversity and Nature Conservation	No potential for significant adverse effects on SPAs, SAC, or Ramsar sites.
CS10	Housing Mix	Description of housing types introduces no potential for significant adverse effects on SPAs, SAC, or Ramsar sites.
CS11	Affordable Housing	Description of specific housing type introduces no potential for significant adverse effects on SPAs, SAC, or Ramsar sites.
CS12	Older People and Vulnerable Groups	No potential pathway for significant adverse effects on SPAs, SAC, or Ramsar sites.
CS15	Infrastructure Delivery	Policy addresses proposals that would have beneficial effects on SPAs, SAC, or Ramsar sites through improvements in air quality, water resources and quality, and reduced demand for recreation on these sites. The revised policy would ensure the provision of infrastructure that protects these sites from all potential impacts.
CS18	Social and Community Infrastructure	No potential pathway for significant adverse effects on SPAs, SAC, or Ramsar sites.
CS19	Heritage and Conservation	No potential pathway for significant adverse effects on SPAs, SAC, or Ramsar sites.
CS20	Design	No potential pathway for significant adverse effects on SPAs, SAC, or Ramsar sites. The revised policy would ensure the provision of well designed SANG, where necessary.
CS21	Sustainable Construction	The application of sustainable standards of construction is unlikely to have any direct adverse effects on on SPAs, SAC, or Ramsar sites. In the longer term, there may be some indirect beneficial effects.
CS22	Renewable and Low Carbon Energy	In view of the relatively small scale community-based projects envisaged, the generation of energy from low carbon renewable technologies is unlikely to have any direct adverse

		effects on on SPAs, SAC, or Ramsar sites. In the longer term, there may be some indirect beneficial effects.
CS23	Woking's Landscape and Townscape	In the context of policy CS7, measures for the protection and enhancement of Woking's townscape and landscape introduce no potential pathway for significant adverse effects on SPAs, SAC, or Ramsar sites.

Table 6a: Policies Screened Out Prior to the Technical Screening

- 4.5 For the policies not screened out (even with the policy rewording), Table 7 sets out the parameters used in the technical screening of these policies to determine the need for Appropriate Assessment.
- 4.6 It is not possible to anticipate all of the potential effects of development on SPA, SAC and Ramsar sites at the Core Strategy stage of the LDF process. Because of this, it is proposed that generic policy text should be added to Policy CS7 "Biodiversity" (see text in Table 6) to ensure the effective HRA Screening of future development allocations and proposals to ensure compliance with The Conservation of Habitats and Species Regulations 2010, Regulation 61, and The Wildlife and Countryside Act, 1981 as amended.

Phase I: Technical Screening of Core Strategy Policies

- 4.7 Specialists have carried out their technical screening analysis on policies that may have potential impacts on SPA, SAC and Ramsar sites. As stated, this process has incorporated the skills of consultants in fields of environmental planning, air quality, hydrology, hydrogeology, transport, GIS, and ecology in a consortium approach between the companies of Mayer Brown Ltd and Bioscan.
- 4.8 Where possible the specialists have used established criteria, standards and cut-offs for impact significance that are applied in Sustainability Appraisals and EIAs. This analysis was carried out with inputs from specialist ecologists to determine potential impact significance and feasibility of effective avoidance measures, if required, in respect of the conservation objectives, coherence and integrity of the SPA, SAC and Ramsar sites.
- 4.9 It should be noted that this study is a screening assessment. As such, the conclusions are based upon expert overview rather than detailed assessment and should be treated as such.
- 4.10 The technical screening exercise has been used to recommend to WBC some adjustments to Core Strategy policies, and to indicate whether some policies should be the subject of an Appropriate Assessment in Phase II and consultation with the Environment Agency and Natural England.

- 4.11 The technical screening has covered other urban encroachment with particular regard to;
- the hydrology/hydrogeology connections between development and SPA, SAC and Ramsar sites;
 - direct pollution;
 - increasing traffic levels by over 1000 Annual Average Daily Flows and causing airborne nitrogen enrichment of the soil;
 - transboundary and cumulative impacts.
- 4.12 Policy CS1 sets out the overall figures for new development. The largest proportion of development (ie 3,674 dwellings out of a total 4,964 will take place within the existing urban area. The 1290 dwellings on the edge of the urban area and on greenfield sites represent a potentially more significant threat to biodiversity.
- 4.13 Policies CS1, CS2 and C4 indicate general locations for developments mainly within the existing built up area. These policies help to determine in broad terms the general distribution of increases in traffic movements and this has been used by WBC in their Transport Assessment for Woking Borough Councils Core Strategy (11) These policies for developments within the existing urban area have been analysed in the technical screening as one central location.
- 4.14 Policies CS3 and CS5 give more site specific locations for developments within and on the edge of the existing urban area. Within policy CS9 specific locations for development at two “safeguarded sites” are given for land at the edge of the existing urban area at Brookwood Farm and Moor Lane. These policies allow a prediction of increases in traffic along main roads that cross or run adjacent to SAPs/SAC, that is more directly attributable to a policy that leads to development.
- 4.15 Policy CS6 “Green Belt” has been considered, in respect of possible suitable development within the major developed sites at West Byfleet (currently a large house and grounds), and to the east of Old Woking (currently a sewage treatment works). Because no development is proposed at these sites they have not been included in the technical screening. The 550 net additional dwellings on Green Belt sites to be released after 2021/22 have been included.
- 4.16 Policy CS13 relating to Gypsies, Travellers and Travelling Showpeople is considered to be a housing policy because the sites provide fixed locations for residential development.

4.17 Of the 23 Core Strategy policies, 12 are considered to have the potential to affect SPA, SAC and Ramsar sites in and around Woking Borough through the other urban encroachment impact pathway mechanisms identified. These policies and the proposed adjustments are set out in Table 7, below.

Core Strategy Policy	Subject	Parameters Analysed in Determining Need for Appropriate Assessment (Floorspace figures are residual figures, and vacancy rates have been taken into consideration)
CS1	Spatial Strategy	<p>4964 new dwellings (an annual average of 292 per annum) during the remaining plan period.</p> <p>28,000 m2 additional office floorspace - there will not be any land requirement for office development as it is anticipated this will come through replacement and intensification of existing Town Centre sites (including mixed use sites), with around 1,000 m2 in West Byfleet.</p> <p>20,000 m2 additional B8 floorspace - expected to be through redevelopment of sites within the employments areas.</p> <p>A loss of 31,000m2 B2 floorspace (the majority is likely to be lost to B8 in the employment areas and the remainder to B1 use potentially in the Butts Road/Poole Road area) – information about this can be found in CS14.</p> <p>93,900m2 Additional Retail Floorspace across the borough (majority in Woking Town Centre</p> <p>Confirmed by WBC May 2011</p> <p>Woking Town Centre will be the primary focus for development</p> <p>Other development will be within district, local and neighbourhood centres and employment areas, which are within the existing urban areas.</p> <p>Most new development directed to previously developed land</p> <p>Horsell Common (A3048/A320) Brookwood Common (A324)</p>
CS2	Woking Town Centre	<p>2,500 net additional dwellings</p> <p>27,000m² additional office floorspace</p> <p>75,300 additional retail floorspace</p>

CS3	West Byfleet	170 New Dwellings 1,000 to 1,500m ² Additional Office Floorspace 13,000m ² Additional Retail Floorspace SPA/SAC in Runnymede and Elmbridge Boroughs Horsell Common (A3048/A320) Brookwood Common (A324)
CS4	Local Neighbourhood Centres and Shopping Parades	250 net additional dwellings
CS5	Priority Places - Maybury & Sheerwater and Lakeview	250 New Dwellings in Maybury and Sheerwater Proximity to Horsell Common (A320/A3046)
CS6	Green Belt (sites to be released after 2021/22)	550 net additional dwellings
CS8	Flooding	Implications for SPA/SAC arising from anticipated development in the Borough
CS9	Housing	Specific locations for development at 2 “safeguarded sites” are also given (in Policy CS9) for the edge of the existing urban area at Brookwood Farm and Moor Lane. The total number of 4,964 new dwellings is divided between the edge of urban area sites Brookwood Farm, Moor Lane and Green Belt Sites after 2021/22 (a sub-total of 1290 dwellings) on the one hand; and the 3,674 dwellings anticipated within the urban area. The former being a potentially more significant threat to biodiversity.
CS13	Gypsies/Travellers	The Core Strategy identified a need to provide 3 additional pitches between 2010 and 2016 is expected that these will be provided at the Five Acres, Brookwood site through a recent unimplemented planning permission. An additional 10 pitches are required between 2017 and 2027. Sites to meet this need will be identified in the Site Allocations DPD. An additional one pitch will

		<p>be provided for travelling showpeople by 2027. Where no sites are available priority will be given to sites on the edge of the urban area.</p>
CS15	Infrastructure Delivery	<p>The Council is currently in the process of producing an IDP which will identify the future infrastructure requirements in the Borough.</p> <p>Mentioned in the Core Strategy however is Airtrack. If this scheme goes ahead as proposed Woking Station will have a new direct rail link to Heathrow Airport and additional rail services to Guildford.</p> <p>The Core Strategy also proposes a new access road through Monument Way East and Monument Way West in Woking to be delivered in the time period of the Core Strategy. However, a definite scheme has not yet been drawn up.</p> <p>The detailed implications of this have not been examined as data is not available</p>
CS16	Open Space, Green Infrastructure, Sport and Recreation	<p>Implications of changes for SPA, SAC and Ramsar Sites</p> <p>Policy represents opportunities for SANG provision eg proposed Heather Farm to Mimbridge, Joint SANG with Surrey Heath Borough Council</p>
CS17	Transport and Accessibility	<p>Implications for increase traffic volumes adjacent to, or across SPA/SAC</p>

Source: Core Strategy and communication with Policy Officers

Table 7: Technical Screening of Core Strategy Policies

5. RESIDENTIAL/DELIVERY FRAMEWORK PARA 4.9 ENCROACHMENT

- 5.1 As stated, residential/para 4.9 encroachment is considered in terms of those policies which promote an increase in the residential community in the study area for developments in use classes C3 (including housing windfalls); together with C1 Hotels (accommodation of staff) and C2 Residential Institutions (accommodation of staff), employment, retail and formal leisure developments.
- 5.2 As a result, Policies CS1 to CS6 inclusive, CS7 to CS9 inclusive, CS13, CS15 to CS17 inclusive and are identified in the screening process as having the potential to lead to residential/para 4.9 encroachment Impacts. This applies in particular to Policy CS9 and possibly CS3 and CS5. Policy C20 can also influence the quality of SANG provision, as indicated in Table 6.
- 5.3 All of the residential/para 4.9 development areas identified for development in Table 7 above are at least 400m from SPA and SAC sites, with the closest being located at the 'Priority Place' location at Lakeview (See Figure 3a). However the Core Strategy states "no significant development is planned for the Lakeview Estate over the plan period. This is in compliance with the 400m residential exclusion zone required within the Thames Basin Heaths Delivery Framework.
- 5.4 The sites do however fall within the 5 to 7km band where residential development will normally need to make a contribution to strategic avoidance measures for SPA. As a result, it is not considered that the policies with implications for residential development compromise the objectives set out in Table 5 and it is concluded that an appropriate assessment of these policies is not required, with regard to residential/para 4.9 encroachment.

6. OTHER URBAN ENCROACHMENT

- 6.1 All other urban encroachment is considered in terms of those policies which promote an increase in built development in the Borough. As a result, Policies CS1 to CS6 inclusive, CS7 to CS9 inclusive and CS13, CS15 to CS17 inclusive, are all identified in the screening process as having the potential to lead to other urban encroachment impacts.
- 6.2 A series of figures has been produced which illustrate the spatial locations of the areas within the Borough proposed for additional development. These are:
- Figure 3: All Core Strategy Development Areas
 - Figure 3a: Proposed Core Strategy Residential Development Areas
 - Figure 3b: Proposed Core Strategy Employment Locations and;
 - Figure 3c Proposed Core Strategy Retail Areas.
- 6.3 The implications of this other urban encroachment are examined in the following sections.

7. CATCHMENT HYDROLOGY

- 7.1 Policies CS1 to CS6 inclusive, CS7 to CS9 inclusive, CS13, and CS15 to CS17 inclusive are identified in the screening process as having the potential for impacts on SPA and SAC sites through catchment hydrology. With the exception of Policy CS16 they have the potential to result in the provision of new built development.
- 7.2 The potential need for the appropriate assessment of these policies has been identified by, where possible, overlaying the potential sites for the above land uses on a plan of the hydrological catchment areas of the Borough.
- 7.3 The catchment plan (Figure 4) has been obtained from topographical data and the derived catchments have been confirmed against the catchments for the area within the Flood Estimation Handbook CD ROM (13).
- 7.4 In determining the possibility of any hydrological pathways for potential impacts, the positions of designated areas and proposed development sites have been related to the hydrological catchments shown on Figure 4.
- 7.5 Figure 4 shows that the Borough of Woking is covered by four major catchments, with a fifth located external to the Borough at Wisely Common. These have been named in relation to their spatial location in the Borough. The south-western catchment flows towards the River Wey to the east and the north-western catchment and sub catchment, and north-eastern catchment also join the River Wey further to the north.
- 7.6 The external eastern catchment flows toward the River Wey from the south east and as such remains unaffected by development within the Borough.
- 7.7 Equally, the hydrological gradient is such that development within the Borough's south western catchment cannot affect hydrological aspects of the Ash to Brookwoods Heaths SPA/SAC to the south west or Whitmoor Common SPA to the south. Neither is there any potential for development within the north-eastern catchment to affect local SPA/SAC.
- 7.8 However, where the spatial location of proposed development in the Borough is examined in relation to the north-western catchment and sub catchment it can be seen that there is potential for any development in the north-west of the Borough, to be hydrologically linked with the Horsell Common SPA and therefore potentially affect it.
- 7.9 Therefore it is advised that suitable wording is inserted into the relevant policies, as identified by WBC, to ensure that drainage of any development proposed within the north-western catchments and sub catchments is strictly

controlled to ensure there are no hydrological impacts upon the Horsell Common SPA.

- 7.10 In this way hydrological impacts upon the Horsell Common SPA, as a result of the Core Strategy Policies via this pathway can be avoided.

8. CATCHMENT HYDROGEOLOGY

- 8.1 As with hydrology, policies CS1 to CS6 inclusive, CS7 to CS9 inclusive, CS13, and CS15 to CS17 inclusive have the potential for impacts on SPA and SAC sites through catchment hydrogeology. All but Policy CS16 would result in the provision of new built development which may have an impact upon the hydrogeological catchment and groundwater reserves within and adjacent to SPA/SAC within the Borough boundary.
- 8.2 The potential need for the Appropriate Assessment of these policies has also been identified by, where possible, overlaying the potential sites for these land uses, on a hydrogeological catchment plan of the Borough.
- 8.3 The hydrogeological catchment plan has been obtained from a British Geological Survey (BGS) Digimap of the Institute of Geological Science; Hydrological Map of England and Wales for the Borough and wider region.
- 8.4 In determining the possibility of any hydrogeological pathways for potential impacts, the positions of designated areas and proposed development sites have been related to the hydrogeological catchments shown on Figures 5a and 5b.
- 8.5 The 1:50,000 scale geological BGS map indicates that most of Woking is underlain by a secondary aquifer, which was formerly noted by BGS as a minor aquifer. This is a permeable layer capable of supporting water supplies at a local level rather than a strategic scale and in some areas it can form an important water source.
- 8.6 Secondary aquifers can and should also be considered as contaminant migration pathways to other receptors (water abstractions, primary aquifers, other secondary aquifers, rivers etc).
- 8.7 Groundwater levels are of particular importance to the integrity of all the natural habitats within the Borough, but especially so for those sites which support wetter habitat types such as Chobham Common SSSI and Colony Bog and Bagshot Heaths SSSI, both part of Thames Basin Heath SPA.
- 8.8 Groundwater flow directions and gradients vary significantly within aquifers and can be influenced by many factors, such as proximity to rivers, topography, abstraction wells, geological structure and even man-made obstructions such as building foundations. However, locally, shallow aquifers in hydraulic continuity with rivers will tend to flow towards the rivers.
- 8.9 As discussed in Section 7, the south-western, north-eastern and external river catchments within the Woking Borough are located such that there is

generally no hydrological connectivity with the SPA and SAC in or adjacent to the Borough.

- 8.10 However, in locations to the north-east where there is potential connectivity, there is the possibility that local abstraction from proposed development could impact upon Horsell Common SPA by drawing on groundwater supplies which feed the designated site.
- 8.11 The Environment Agency requires a licence for any water abstraction of more than 20m³ per day from a river, stream, reservoir, lake, pond, canal, spring or underground source. However there is a potential that abstractions below this volume may have a cumulative impact upon the designated site if there is hydrological connectivity between the abstraction site and the Natura 2000 site.
- 8.12 This is an example of where the adjusted generic wording to policy CS7 will come into effect. *Bespoke SANG provision (in addition to the “Off the Shelf” provision in the Avoidance Strategy) and other impact avoidance measures, such as car parking and water abstraction restrictions, and special waste management measures will have to be considered.* Therefore it is advised that suitable wording is placed within relevant policies, as identified by WBC, to ensure that any water abstraction is strictly controlled where there may be a hydrological connectivity with a designated site.
- 8.13 Where suitable wording is inserted into the relevant policies, hydrogeological impacts upon SPA and SAC sites, as a result of the Core Strategy Policies via this pathway can be avoided.

9. DIRECT POLLUTION

- 9.1 There are a number of potential sources and pathways for direct pollution. Policies CS1 to CS6 inclusive, CS7 to CS9 inclusive, CS13, and CS15 to CS17 inclusive are identified in the screening process as having the potential to have an impact upon SPA and SAC sites by way of direct pollution.
- 9.2 All but Policies CS 8 and CS16 would result in the provision of new built development, and would have the potential to result in direct pollution as a result of construction impacts.
- 9.3 Whilst none of the Core Strategy Policies indicate that there are proposals for development relating to for example landfill extensions or new Part A or B processes, other policies which relate to employment, may have the potential for operational impacts on SPA and SAC sites unless policies are reworded in relation to site specific development.
- 9.4 The various development sites are illustrated on Figure 3. These demonstrate that the closest potential development area is located approximately 220m from the Horsell Common SPA. Where development at this location results in construction or operational impacts there is a potential for this activity to impact upon the Horsell Common SPA.
- 9.5 Generic wording is inserted into the Policy CS7 (in Table 6), to ensure that direct pollution impacts upon the SPA, as a result of the Core Strategy Policies relating to employment via this pathway can be avoided.
- 9.6 It is noted that the 'Priority Place' location at Lakeview is approximately 370m from Horsell Common. It is also noted that the 'Safe Guarded' site at Brookwood Farm is approximately 550m from the Ash to Brookwoods Heath SPA. Therefore, there is a potential for construction impacts such as dust and noise to impact upon the qualifying criteria for the relative SPA designations. However, WBC have noted that there is no significant development planned for Lakeview
- 9.7 All other development locations are located at least 750m from any local SPA and SAC sites and so it is not considered that any impacts as a result of the Core Strategy Policies via this pathway are will occur.

10. ATMOSPHERIC POLLUTION

10.1 A number of pollutants within the atmosphere have the potential to have a detrimental effect upon habitats and species. These are described in the following table.

Pollutant	Description
Acid Deposition	Atmospheric input to ecosystems of pollutants which may acidify soils and freshwaters; this includes species derived from SO ₂ , NO _x and NH ₃ emissions, as well as a number of other minor pollutants (e.g. HCl, HF). Acid deposition is more general than "acid rain", since it includes both wet deposition and dry deposition.
Ammonia (NH ₃)	A pungent, colourless, gaseous pollutants formed mainly from volatilisation of decomposing excreta or fertilisers. NH ₃ is alkaline, but may be acidifying if oxidised to nitrate in soils.
Nitrogen Oxides (NO _x)	Product of combustion of fossil fuels (transport, stationary sources); a major contributor to the formation of ozone in the troposphere and acid deposition.
Nitrogen (N) Deposition	This is a measure of the general availability of Nitrogen. It is derived from the combustion of fossil fuels resulting in the primary pollutants of NO _x and NH ₃ and the secondary pollutants of Nitric Acid, Nitrates, organic compounds and ammonium. It is deposited and removed by wet and dry deposition (rain and wind).
Ozone	A pungent, colourless, toxic gas. Close to the earth's surface ("tropospheric ozone") it is produced photochemically from hydrocarbons, NO _x and sunlight, and is a major component of smog. In the stratosphere, it protects the earth from harmful ultraviolet radiation..
Sulphur Dioxide (SO ₂)	A pungent, colourless, gaseous pollutant formed primarily by the combustion of fossil fuels, especially coal and oil.

Table 8: Atmospheric Pollutants

Source: UK Air Pollution Information System 2011

- 10.2 The information above was obtained from the Air Pollution Information System (APIS) website which has been developed in partnership by the UK conservation agencies and regulatory agencies and the Centre for Ecology and Hydrology.
- 10.3 It contains information on the Critical Loads for pollutants. That is the level of pollutant above which, habitats and species will be subject to detrimental effects which include, damage to tissues, reduction in growth and alteration in species communities.
- 10.4 APIS provides a Site Relevant Critical Load (SRCL) screening method, by which it is possible to explicitly review the Critical Loads which are of most relevance to the most sensitive habitat type or species at the SSSI habitat location chosen.
- 10.5 This study focuses on an examination of traffic related pollutants in relation to these critical loads. This is due to the fact that traffic is considered here to be the pollutant source most likely to be affected by the Core Strategy policies.
- 10.6 The main traffic related pollutants identified in the SRCL screening method, are those of Nitrogen deposition and Acid deposition. An examination of the deposition rates of these two pollutants for the SSSIs in question is set out in Appendix D. This demonstrates that there is a statistically significant relationship between the two deposition rates.
- 10.7 Therefore, the following study has been undertaken to examine the potential impacts of traffic related nitrogen enrichment upon SSSI elements of identified SPA and SAC as a result of specific core strategy policies. The findings of this study will be taken as indicative of the likely impacts acid deposition.

Nitrogen Enrichment Study

- 10.8 Policies CS1 to CS6 inclusive, CS7 to CS9 inclusive, CS13, CS15 to CS17 inclusive are identified in the screening process as having the potential to have an impact on SPA and SAC sites as a result of the introduction of

additional traffic flows, which may in turn, individually or cumulatively, result in the nitrogen enrichment of the soil.

- 10.9 Volume 11 Section 3 Part 1 HA 207/07 of the Design Manual for Roads and Bridges Procedure for Assessing Impacts (14), advises that the first stage of the identification of assessment of likely impacts, is to note whether the potentially affected roads meet a number of criteria. One of these being whether the 'daily traffic flows will change by 1,000 AADT¹ or more'. This method of assessment was confirmed and advocated on consultation with Heather Twizell from English Nature 22/03/11, who advised that the potential traffic flows within 200m of Horsell Common should be assessed in the first instance. Horsell Common was chosen for the initial screening exercise due to the fact that the implementation of Core Strategy policies in full is expected to result in the highest traffic flows upon the A245 and A320 adjacent to the common.
- 10.10 A traffic analysis exercise was therefore undertaken using flows for '2026 Scenario D - full implementation of Core Strategy proposals' against '2026 Do minimum', in both cases for the A245 and A320 taken from Surrey County Council's Transport Evaluation for Woking Borough Council's Core Strategy - 2026 Transport Assessment Report (12). This indicated that for full implementation, whilst traffic flows for the A245 would be close to the 1000 AADT criteria, traffic flows for the A320 would exceed this considerably at 5000+. The results of this exercise are set out in Appendix C
- 10.11 This triggered the need for a more in-depth air quality analysis.
- 10.12 Annex F of Volume 11 Section 3 Part 1 HA 207/07 of the Design Manual for Roads and Bridges Assessment of Designated Sites (15), provides the methodology for the assessment of European Sites with regards to Nitrogen Deposition. The results of this exercise are set out in Appendix D, and include the identification of European 'sensitive sites'. For the purpose of this assessment, sensitive SAC/SPAs are defined as those with qualifying criteria

¹ Annual Average Daily Traffic

recognised as being sensitive to Nitrogen deposition² and which are located within 200m of an affected road³

10.13 The sensitive sites identified are set out below:

- Horsell Common SSSI* (within 200m of A245 Shores Lane and A320 Chertsey Road)
- Whitmoor Common SSSI* (within 200m of A320 Woking Road/Guildford Road)
- Ash to Brookwood Heaths SSSI *# (within 200m of A322 Bagshot Road)
- Colony Bog and Bagshott Heath SSSI *# (within 200m of A322 Guildford Road)

*Part of Thames Basin Heaths SPA

Part of Thursley Ash and Pirbright SAC

10.14 The APIS SRCL screening method provides critical loads for the criteria for which the European designations are given. These are set out below for main elements of the potentially affected SPA and SAC i.e. the SSSI elements of the Thames Basin Heaths SPA and the Thursley Ash and Pirbright SAC.

Thames Basin Heaths SPA

Wood Lark	10 – 20 kg N ha ⁻¹ y ⁻¹
European Night Jar	10 – 20 kg N ha ⁻¹ y ⁻¹
Dartford Warbler	10 – 20 kg N ha ⁻¹ y ⁻¹

Thursley Ash and Pirbright SAC

Northern Atlantic Wet Heaths with <i>Erica tetralix</i>	10 – 20 kg N ha ⁻¹ y ⁻¹
---	---

² Sensitivity of qualifying criteria to Nitrogen deposition is identified within the Air Pollution Information System (www.apis.ac.uk)

³ Annex F of Volume 11 Section 3 Part 1 HA 207/07 of the Design Manual for Roads and Bridges Assessment of Designated Sites

- 10.15 Previous consultation with George Gittins of English Nature on a similar HRA screening exercise has provided the following method of assessment with regard to critical loads. This is based upon advice provided within the Environment Agencies H1 Horizontal Guidance (16):

“... based on current guidance, if at the screening stage, additional traffic movements cause the concentration within the footprint in any part of the European site(s) to increase by less than 1% of the relevant long-term bench mark (Environmental Assessment Level, Critical level or Critical Load) the emission is not likely to have a significant effect either alone or in combination irrespective of the background levels. Where the predicated contribution for the [industrial process] is greater than 1%, consideration also need to be given to the Predicted Environmental Contribution (PEC). Where the PEC (background + process contribution) is less than 70% of the critical load/level then a conclusion of no likely significant effect can be reached, even if the process contribution is greater than 1%”.

- 10.16 This exercise has been carried out, to establish whether the road transport emissions associated with the full implementation of the Core Strategy proposals exceed **more than 1% or the critical loads or if the PEC (background + process contribution) is more than 70% of the critical loads**. Where exceedances are identified, they have been deemed as potentially having a significant effect on the integrity of the nature conservation site. As such, further examination of the ecological implication of the findings is provided.
- 10.17 The findings of this N deposition screening exercise calculated at 5m from the centreline of roads within 200m of SAC and SPA in and adjacent to the Borough, are set out in Tables 9 and 10 below.

Is the Impact less than 1% of Critical Load?		
Critical Load kg N ha⁻¹ y⁻¹	10	20
Horsell Common SSSI		
N deposition from Process Contribution as % of Critical Load	0.271	0.135
Less than 1% of Critical Load?	NO	YES
Whitmoor Common SSSI		
N deposition from Process Contribution as % of Critical Load	0.175	0.088
Less than 1% of Critical Load?	NO	YES
Ash to Brookwood Heaths SSSI		
N deposition from Process Contribution as % of Critical Load	0.265	0.133
Less than 1% of Critical Load?	NO	YES
Colony Bog and Bagshot Heath SSSI		
N deposition from Process Contribution as % of Critical Load	0.139	0.070
Less than 1% of Critical Load?	NO	YES

Table 9: Assessment of Impacts as a Percentage of the Critical Load at 5m from the Road Centreline

Is the PEC less than 70% of Critical Load?		
Critical Load kg N ha⁻¹ y⁻¹	10	20
Horsell Common SSSI		
Predicted Environmental Contribution as % of Critical Load	108	54
Less than 70% of Critical Load?	NO	YES
Whitmoor Common SSSI		
Predicted Environmental Contribution as % of Critical Load	112	56
Less than 70% of Critical Load?	NO	YES
Ash to Brookwood Heaths SSSI		
Predicted Environmental Contribution as % of Critical Load	108	54
Less than 70% of Critical Load?	NO	YES
Colony Bog and Bagshot Heath SSSI		
Predicted Environmental Contribution as % of Critical Load	54	54
Less than 70% of Critical Load?	NO	YES

Table 10: Assessment of PEC as a Percentage of the Critical Load 5m from the Road Centreline

- 10.18 This assessment indicates that at 5m from the road centreline, the critical load criteria is exceeded at most sites, with Horsell Common being the worst affected. It also indicates that the Predicted Environmental Contribution criteria is also exceeded at all sites for the most stringent critical load of 10 kg N ha⁻¹ y⁻¹.
- 10.19 However, these results must be further examined in order to ascertain their spatial significance in relation to the SPA and SAC.
- 10.20 The results for the most stringent criteria for each site were re modelled at distances of 10, 50 and 100m from the road centreline in order to calculate the reduction of N deposition with distance from the road and in relation to the SPA / SAC boundary. The findings are set out below:
- 10.21 **Horsell Common.** N deposition reaches levels which are less than 1% of the 10 kg N ha⁻¹ y⁻¹ critical load at **55m** from the centreline of the A320.
- 10.22 **Whitmoor Common.** N deposition reaches levels which are less than 1% of the 10 kg N ha⁻¹ y⁻¹ critical load at **35m** from centreline of the A320 on both sides.
- 10.23 **Ash to Brookwoods Heath.** N deposition reaches levels which are less than 1% of the 10 kg N ha⁻¹ y⁻¹ critical load at **50m** from centreline of the A322 on both sides.
- 10.24 **NB the Ash to Brookwoods Heath SPA / SAC begins at approximately 70m from the centreline of the A322. Therefore Ash to Brookwoods Heath can be screened out as unaffected by N deposition as a result of the implementation of Core Strategy Policies.**
- 10.25 **Colony Bog and Bagshot Heath.** N deposition reaches levels which are less than 1% of the 10 kg N ha⁻¹ y⁻¹ critical load at **25m** from the centreline of the A322.
- 10.26 **NB the shape of the Colony Bog and Bagshot Heath SSSI is restricted at this location. Therefore the area of the SSSI found at 25m from the road centreline is only approximately 500m².**

10.27 The ecological implications of these findings are discussed in Section 12

11. TRANSBOUNDARY AND CUMULATIVE IMPACTS

- 11.1 There are potential transboundary mechanisms through which policies promoted within Woking and in neighbouring Boroughs may have cumulative impacts on SPA, SAC and Ramsar sites beyond Woking Borough
- 11.2 The delivery of Core Strategies in this part of the South-East Region will depend on a number of major developments (including housing, employment, retail and formal leisure developments) and planned strategic infrastructure projects which lie within adjacent Boroughs and close to the boundary with Woking Borough. These are shown in Table 11 below.

Location	Type of Development	Broad Scale of Development	Potential Cross Boundary Impacts
Guildford Borough			
DEFRA site, central Guildford	Housing	199 dwelling units, some completed	Potential other urban encroachment impacts
Redevelopment of Princess Royal Barracks, Deepcut	Housing	See Surrey Heath, below	Joint approach with Surrey Heath Borough on Deepcut Area SPD. Most of site is in Surrey Heath Borough
Slyfield Area Regeneration Project	Urban brownfield regeneration	41 hectares for housing, waste management, employment and community/recreation facilities	Potential other urban encroachment impacts, particularly from additional traffic

Runnymede Borough			
DERA site at Longcross	Mixed use including housing, B1 and community/physical infrastructure	2,500 dwelling units	Potential other urban encroachment impacts, particularly from additional traffic
Surrey Heath Borough			
Redevelopment of Princess Royal Barracks, Deepcut	Housing	Part of a total 1,200 dwelling units	Potential other urban encroachment impacts
Camberley town centre	Housing	Remainder of 1,200 dwelling units	Potential other urban encroachment impacts

Source: Consultation with Borough Officers March 2011

Table 11. Major Developments/Infrastructure in Adjacent Boroughs

- 11.3 All Borough members of the Thames Basin Heaths Joint Strategic Partnership Board have Avoidance Strategies.
- 11.4 It should be noted that Guildford Borough Council has identified a future need for more SANG in the western part of the Borough and Guildford Borough Council is discussing a cross-border approach to this with Rushmoor BC.
- 11.5 Woking and Surrey Heath Boroughs may be taking a joint approach to the provision of linear green infrastructure SANG along a footpath trail from Heather Farm to Mimbridge. Guildford Borough Council has also carried out some work on a Blackwater Valley-wide SANG, which could lead to another cross-border approach with neighbouring Boroughs.
- 11.6 Should developments with over 10 dwellings take place in the north of Guildford Borough, adjoining Woking Borough, it is understood that Guildford Borough Council may look to Woking Borough to help with the provision of SANG.

- 11.7 At present a number of transport and other studies are being carried out in respect of these major developments and the resulting information will be available to inform such a joint approach by the Boroughs to address potential cumulative other urban encroachment impacts
- 11.8 The mechanisms which could result in transboundary or cumulative impacts upon the SPA/SAC in the vicinity are discussed below.

Hydrology

- 11.9 River catchments are generally aligned to the north-east across the Borough. Therefore it is not possible for developments within the Borough to impact the hydrology of European sites to the immediate North, West, South and South West of the Borough. See Figure 4.
- 11.10 Examination of the catchment mapping within Flood Estimation Handbook (FEH) CD ROM (12) demonstrates that whilst the Ockham and Wisely Common SPA is located to the north-east of the Borough, the catchment for this SPA is self contained. As a result, there is no indication that it could be hydrologically linked with any proposed development within Woking Borough.
- 11.11 The only other sites with a European designation which could potentially be affected are two of the South West London Waterbodies, located approximately 7.8km and 10.3km to the north-east of the Borough boundary. The FEH CD ROM does indicate that the topography at this location is such that it is within the larger catchment which also contains Woking Borough. However given that:
- a) the catchment at this locations is approximately 9336.84km² ;and
 - b) the only way pollutant materials could enter these areas would be as a result of a catastrophic flooding event.
- 11.12 It is not reasonably conceivable that development within the Borough would impact upon these SPA.
- 11.13 The transboundary impacts of water abstraction associated with the polices of the Core Strategy has also been reviewed. The main water companies for the region are Veolia Water Central and South East Water

and a review has been undertaken of their latest relevant Water Resource Management Information.

- 11.14 South-East Water completed a Strategic Environmental Assessment⁴ of their Water Resource Management Plan earlier this year and came to the following conclusions.

“The Environmental Report identified that there are likely to be a number of significant positive and negative environmental effects associated with the implementation of the WRMP. For most of the adverse effects, high level mitigation measures were identified to avoid or reduce impacts. It was recognised that there is uncertainty at this stage about the level of impact identified and availability of mitigation measures. This can only be fully resolved at the scheme or project level, when more detailed information is available and specific options for mitigation and/or enhancement can be identified.”

- 11.15 Veolia state within their Water Resources Management Plan⁵ that:

“Our work shows that, if expected reductions in water use as a result of metering are sustained in the longer term coupled with further leakage reductions, we will not need to develop any new water resources until after 2035.

- 11.16 Veolia do not appear to have published a Strategic Environmental Assessment of this plan.
- 11.17 The Environment Agency’s Summary Paper ‘Water for the Future – Managing Water in the South East of England’ also emphasises that

⁴ South East Water – Water Resource Management Plan (2011) Strategic Environmental Assessment Statement. South East Water.

⁵ Veolia Water Central (2010) Water Resources Management Plan Overview. Veolia Water

without dealing with water resources on the micro scale, i.e. controlling leaks, installing meters and water saving devices, soaring demand will stretch existing resources severely.

- 11.18 Therefore it is concluded here that this potential impact can only be fully assessed at the more site-specific Allocations DPD phase.

Hydrogeology

- 11.19 Whilst Woking Borough is located upon a secondary aquifer, it is considered, for the purposes of this screening assessment, this it is most likely that groundwater will flow in the same direction as overland flow. Therefore any hydrogeological continuity with SPA/SAC/Ramsar external to the Borough will be as discussed above.

Nitrogen Enrichment

- 11.20 Only designated areas within or immediately adjacent to the Borough were assessed at the detailed screening level. These findings indicate the Predicted Environmental Contribution criteria is exceeded at all sites but only for the most stringent critical load of $10 \text{ kg N ha}^{-1} \text{ y}^{-1}$. The ecological implications of this and of the spatial distribution of this exceedence is discussed in the following section.
- 11.21 This screening would indicate that there is a potential for similar findings in respect of other designated areas, where affected roads (i.e. those where full implementation of the Core Strategy Policies would result in an increase in traffic of more than 1000 Annual Average Daily Flows) are located outside the Borough boundaries. However traffic data is not currently available to assess changes in traffic levels external to the Borough as a result of proposed Core Strategy policies.

Direct Pollution

- 11.22 Direct pollution is primarily a function of distance. Therefore, none of the developments proposed in the Borough are considered to have a transboundary impact upon the SPA/SAC or Ramsars of neighbouring Boroughs as a result direct pollution.

12. ECOLOGICAL APPRAISAL OF FINDINGS

12.1 It would appear that at a strategic level, the transport related nitrogen deposition has a negative impact upon the integrity of the SPA and SAC assessed, particularly in terms of Dartford warbler, exceeding the 1% critical threshold. However, when examined more closely, the 1% critical threshold is only exceeded in a minority of cases and in close proximity to the road and not equally, for example:

- Horsell Common
No impacts above 1% for the A245
Impacts of less than 1% from 55m of the centreline of the A320.
- Whitmoor Common
Impacts of less than 1% from 35m of both sides of the centreline of the A320
- Ash to Brookwoods Heath
Impact of less than 1% from 50m of the centreline of the A322 (here the SSSI boundary is 70m from the road).
- Colony Bog and Bagshot Heaths
Impact of less than 1% from 25m from the centreline of the A322.

12.2 When these results are viewed in the context of the area of land involved, which is much less than 1% of the land area of the SPA/SAC, it can be assessed that the projected nitrogen deposition would not lead to a significant impact upon the habitat quality. Whilst an increase in nitrogen levels may alter the species composition of heathland, encouraging more grass species such as *Molina*, this is unlikely to be significant in areas of sub-optimal heath such as that likely to currently be found in close proximity to roads.

12.3 The limiting factor in the current Dartford warbler population must also be considered when assessing the likely impact of the projected nitrogen increases. The areas along the roadside are likely to be highly sub-optimal for Dartford warblers in their current state, mainly due to existing noise and visual impacts (vehicle movements) from current vehicular use, as well as poor habitat quality. The predicted rise in nitrogen deposition rates within these limited zones may have a slight influence on the vegetation

composition, but research has shown that ecological change within the habitat is of much less importance in terms of the birds survival compared with direct human disturbance and habitat loss.

- 12.4 Therefore, it is concluded that the increase in transport related nitrogen deposition from a predicted increase in vehicles from within the Borough as a result of the Core Strategy would not have a significant impact upon the integrity of the Dartford warbler population and hence there would be no effect upon the qualifying features of the SPA.
- 12.5 This does not, however, consider potential increases in nitrogen deposition due to transboundary effects. However, these cannot be assessed as data is not available for outside of the Borough.
- 12.6 As no impacts are predicted on the SPAs or SACs as a result of hydrological changes, hydrogeology or direct pollution, there would be no alteration to the ecology and hence no effect upon the qualifying features of the SPA or SAC. In addition, sufficient avoidance strategy have been put in place to prevent any impact upon the qualifying features of the SPA, SAC and Ramsar site due to the proposed increase in urban development.

13. EVALUATION METHODOLOGY PHASE II

- 13.1 The flow chart at Appendix B sets out the broad study process for Phase II.
- 13.2 Subject to the further considerations set out in the recommendations below being satisfactorily addressed by WBC and the neighbouring Boroughs, this further phase of works is not required because the Core Strategy policies will not be likely to have any significant effects on SPAs/SACs and an Appropriate Assessment will not be required.

14. RESULTS OF STUDY

- 14.1 This study has carried out an assessment of potential impacts on SPA/SAC/Ramsar according to an evaluation methodology that has been devised to integrate Habitats Directive Appropriate Assessment within the SEA process.
- 14.2 The results of this study provide WBC with the information necessary to determine whether the SPA/SAC/Ramsar within the zone of influence of WBC's planning decisions can be protected and enhanced, within the terms of the policy being tested, whether policies and allocations have to be revised, or whether Appropriate Assessment will be needed for every project or any particular type of project brought forward under each policy.
- 14.3 Table 12 below summarises the main elements of the HRA Screening process. For each Draft Core Strategy policy it identifies the relevant developments, the Natura 2000 and Ramsar designations potentially affected by the Core Strategy proposals and the range of proposed protection measures provided by the Avoidance Strategy, the revised policy wording, the technical screening and the proposed generic policy guidance in CS7.

Policy/ Policies	Use Class/Proposed Development Within the Zone of influence (400m to 7km)	Designations	Type of Impacts	Action undertaken or required to comply with Regulations*1
CS1 to CS6, CS7 to CS9, CS13, CS15 to CS17 and CS20	C3 Residential; C1 Hotels (accommodated staff); and C2 Institutional (accommodated staff) PLUS DELIVERY FRAMEWORK PARA 4.2 IMPACTS	SPA, SAC and Ramsar Sites	Residential/para 4.9 Encroachment: - recreational pressures, including people pressure; - trampling and pet predation; - fire raising; and - the release of non-native species.	Avoidance Strategy*2
CS1, CS6, CS7, CS8, CS9,	C3 Residential; C1 Hotels (accommodated	SPA, SAC and Ramsar Sites	Residential/para 4.9 Encroachment: - recreational pressures	Revised policy wording as a result of HRA

<p>CS13, CS15, CS16, CS17 and CS 20</p>	<p>staff); and C2 Institutional (accommodated staff); Employment; Retail; and Formal Leisure</p>		<p>including people pressure; - trampling and pet predation; - fire raising; and -the release of non-native species.</p> <p>- hydrology/hydrogeology; - direct pollution; - increasing traffic levels by over 1000 Annual Average Daily Flows, causing airborne nitrogen enrichment of the soil; and - transboundary and cumulative impacts.</p>	<p>Screening</p>
<p>CS1, CS2, CS3, CS4, CS5, CS6, CS8, CS9, CS13, CS15, CS16, CS17</p>	<p>C3 Residential; C1 Hotels (accommodated staff); and C2 Institutional (accommodated staff) Employment; Retail; and Formal Leisure</p>	<p>SPA, SAC and Ramsar Sites</p>	<p>hydrology/hydrogeology; - direct pollution; - increasing traffic levels by over 1000 Annual Average Daily Flows, causing airborne nitrogen enrichment of the soil; and - transboundary and cumulative impacts.</p>	<p>Revised policy wording as a result of HRA Screening</p>
<p>CS7</p>		<p>SPA, SAC and Ramsar Sites</p>	<p>Residential/para 4.9 Encroachment: - recreational pressures, including people pressure; - trampling and pet predation; -fire raising; and - the release of non-native species.</p> <p>- hydrology/hydrogeology; - direct pollution; - increasing traffic levels by over 1000 Annual Average Daily Flows, causing airborne nitrogen enrichment of the soil; - recreational pressures including people pressure, - trampling and pet predation; - fire raising; - the release of non-native</p>	<p>Generic Policy Guidance*³</p>

			species; and - transboundary and cumulative impacts.	
--	--	--	--	--

Table 12. Summary of Protection Measures for SPA, SAC and Ramsar Sites

*1 The Conservation of Habitats and Species Regulations 2010.

*2 Potential residential/para 4.9 encroachment effects are covered by the Avoidance Strategy for developments in use classes C3, C1 Hotels (accommodation of staff) and C2 Residential Institutions (accommodation of staff) in the vicinity of SPA (ie within the recognised Zone of Influence between 400m and 7km), which promote an increase in the residential community. This also includes effects of delivery framework para 4.9 developments. The HRA Screening also coincidentally covers the potential impacts of development in these use classes on SAC and Ramsar sites, applying the same Zone of Influence.

*3 The proposed generic policy guidance (for Policy CS7) set out in the HRA Screening Report covers the potential effects of proposed developments in use classes C3 (including housing windfalls), C1 Hotels (accommodation of staff) and C2 Residential Institutions (accommodation of staff), including housing windfalls, in the Zone of Influence for SPA, and SAC/Ramsar sites (applying the same Zone of Influence)

15. RECOMMENDATIONS

- 15.1 It should be noted that whereas the potential residential/para 4.1 encroachment impacts on SPA, SAC and Ramsar sites in neighbouring Boroughs arising from Woking's Draft Core Strategy are covered by this HRA Screening, there has not been a joint approach by the Boroughs (similar to the Thames Basin Heaths Joint Strategic Partnership Board) in respect of potential cross boundary other urban encroachment impacts on SPA/SAC and Ramsar sites.
- 15.2 Where such other urban encroachment impacts are anticipated on SPA, SAC and Ramsar sites close to Borough boundaries, the combined effects of developments from all contiguous Allocations Plans will have to be considered at the more site specific level to ensure that they do not exceed a critical threshold in terms of significant effects on conservation features.
- 15.3 It is not possible to anticipate all of the potential effects of development on SPA, SAC and Ramsar sites at the Core Strategy stage of the LDF process. Because of this, generic policy text is proposed, to be added to Policy CS7 "Biodiversity" relating to the avoidance of direct pollution linkages (as indicated in Table 6) to ensure the effective HRA Screening of future development allocations and proposals to ensure compliance with The Conservation of Habitats and Species Regulations 2010, Regulation 61, and The Wildlife and Countryside Act, 1981 as amended.
- 15.4 Further, as a result of the technical screenings, where potential impacts relate to specific locations, the need for appropriate word changes by WBC within relevant policies has been highlighted. For example this relates to drainage, water abstraction and direct pollution.
- 15.5 Potential transboundary mechanisms for cumulative other urban encroachment impacts on SPA, SAC and Ramsar sites beyond Woking Borough arising from the anticipated major developments/infrastructure set out in Table 9 above will require a further joint approach by the Boroughs. This will have to address the potential cumulative other urban encroachment impacts of these major developments/infrastructure projects on SPA/SAC and Ramsar sites close to Borough boundaries.

- 15.6 This requirement is likely to be addressed as the respective Local Development Frameworks of the Boroughs develop, and possibly within the scope of Allocations DPDs, when the locations of proposed development become more site specific.

REFERENCES

1. Government Office for the South-East Region. (May 2009) South East Plan. Stationery Office. www.tso.co.uk
2. Woking Borough Council. (November 2010) Woking Borough Council Draft Core Strategy. Woking Borough Council. www.woking.gov.uk
3. Woking Borough Council. (to be revised) Woking Borough Council Site Allocations DPD. Woking Borough Council. www.woking.gov.uk
4. Woking Borough Council. (to be revised) Woking Borough Council Development Management Policies DPD. Woking Borough Council. www.woking.gov.uk
5. Thames Basin Heaths Joint Strategic Partnership Board. (March 2009) Thames Basin Heaths SPA Delivery Framework. South East England Regional Assembly (SEERA Ltd). Guildford.
6. Woking Borough Council. (2010) Thames Basin Heaths Special Protection Area Avoidance Strategy for Woking Borough. Woking Borough Council. www.woking.gov.uk
7. Statutory Instrument. (March 2010) Conservation of Habitats and Species Regulations. Stationery Office Ltd. www.tso.co.uk
8. European Union. (May 1992) European Directive 92/43/EEC (The Conservation of Natural Habitats and of Wild Fauna and Flora (The Habitats Directive). European Union. www.europa.eu
9. Government Office for the South-East Region. (October 2006) Appropriate Assessment of the South-East Plan (Final Report) Volume 2. Stationery Office Ltd. www.tso.co.uk
10. Natural England. (2009) The Habitats Regulations Assessment of Local Development Documents. NE. Sheffield.
11. South West Ecological Surveys, Levett-Therivel, Oxford Brookes University (June 2004) Strategic Environmental Assessment and Biodiversity: Guidance for Practitioners. Countryside Council for Wales, English Nature, Environment Agency, Royal Society for the Protection of Birds. www.naturalengland.org.uk
12. Brundle, E. (2010) Transport Evaluation for Woking Borough Council's Core Strategy – 2026 Transport Assessment Report. Transport for Surrey. Surrey County Council.
13. Centre for Ecology and Hydrology (2009) FEH CD ROM. CEH. Wallingford.
14. Highways Agency. (May 2007) Design Manual for Roads and Bridges, Volume 11 Section 3 Part 1 HA 207/07. Highways Agency. www.dft.gov.uk

15. Highways Agency. (May 2007) Design Manual for Roads and Bridges Annex F of Volume 11 Section 3 Part 1 HA 207/07. Highways Agency. www.dft.gov.uk
16. Environment Agency. (2010) H1 Horizontal Guidance Note H1 – Annex (f) EA. Bristol.

FIGURES

APPENDIX A

Maps and Citations for Designated Sites Within the 20km Study Area

APPENDIX B

**WBC DRAFT CORE STRATEGY SIMPLIFIED HRA SCREENING PROCESS
DIAGRAM**

APPENDIX C

TRAFFIC ANALYSIS

APPENDIX D

AIR QUALITY ANALYSIS AND ASSUMPTIONS
