



*Guildford  
Borough  
Council: Issues  
and Options  
Local Plan*

Habitats      Regulations  
Assessment

July 2013

URS Job: 47063354

Prepared for:  
Guildford Borough Council

REVISION SCHEDULE					
Rev	Date	Details	Prepared by	Reviewed by	Approved by
1	January 2013	Draft	GD Ecologist	JR Principal Ecologist	
2	July 2013	Revised draft	GD Ecologist	JR Principal Ecologist	JR Principal Ecologist

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## 1 INTRODUCTION

### 1.1 Scope of the project

URS Infrastructure & Environment UK Ltd was appointed in 2012 by Guildford Borough Council to assist the Council in undertaking a Habitat Regulations Assessment (HRA) of the Guildford Borough Local Plan. The objective of the assessment was to identify any aspects of the emerging Local Plan that would have the potential to cause a likely significant effect on Natura 2000 or European sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites), either in isolation or in combination with other plans and projects, and to begin to identify appropriate mitigation strategies where such effects were identified. Such strategies would be firmed up and become more defined as the Local Plan itself became more fixed at later stages. This current HRA document therefore considers the Issues and Options presented in the consultation paper. URS has already undertaken preliminary HRA work on potential housing scenarios, and assessment of these is updated within this report.

### 1.2 Legislation

The need for Appropriate Assessment is set out within Article 6 of the EC Habitats Directive 1992, and interpreted into British law by the Conservation of Habitats & Species Regulations 2010. The ultimate aim of the Habitats Directive is to “*maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest*” (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites themselves, although the sites have a significant role in delivering favourable conservation status. European sites (also called Natura 2000 sites) can be defined as actual or proposed/candidate Special Areas of Conservation (SAC) or Special Protection Areas (SPA). It is also Government policy for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to Natura 2000 sites.

The Habitats Directive applies the precautionary principle to protected areas. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. This is in contrast to the SEA Directive which does not prescribe how plan or programme proponents should respond to the findings of an environmental assessment; merely that the assessment findings (as documented in the ‘environmental report’) should be ‘taken into account’ during preparation of the plan or programme. In the case of the Habitats Directive, plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

All the European sites mentioned in this document are shown in Figure 1. In order to ascertain whether or not site integrity will be affected, an Appropriate Assessment should be undertaken of the plan or project in question:

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

**Habitats Directive 1992**

Article 6 (3) states that:

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

**Conservation of Habitats & Species Regulations 2010 (as amended)**

The Regulations state that:

*“A competent authority, before deciding to ... give any consent for a plan or project which is likely to have a significant effect on a European site ... shall make an appropriate assessment of the implications for the site in view of that sites conservation objectives... The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site”.*

**1.3 Guildford Borough**

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

- All sites within the Guildford Borough boundary; and
- Other sites shown to be linked to development within the Borough boundary through a known ‘pathway’ (discussed below).

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

There are two European sites which fall partially within Guildford Borough - the Thames Basin Heaths (TBH) SPA and Thursley, Ash, Pirbright and Chobham SAC (which overlaps with the SPA).

During HRA of previous stages of the new Local Plan (then known as the Core Strategy) in 2007, (detailed in separate reports) it was possible to conclude, in consultation with Natural England, that only the Thames Basin Heaths SPA required further consideration as the Guildford Local Plan and associated DPDs and SPDs are developed, primarily due to possible likely significant effects through recreational pressure/urbanisation and through reduced air quality. This HRA report therefore focuses on that SPA.

**1.4 This report**

Chapter 2 of this report explains the process by which the HRA has been carried out. Chapter 3 explores the relevant pathways of impact. Chapter 4 considers the Thames Basin Heaths SPA – its designation, condition and potential effects of the Core Strategy Issues and Options. The key findings are summarised in Chapter 5: Conclusions.

## 2 METHODOLOGY

### 2.1 Key Principles

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

**Table 1 - Key principles underpinning the proposed methodology**

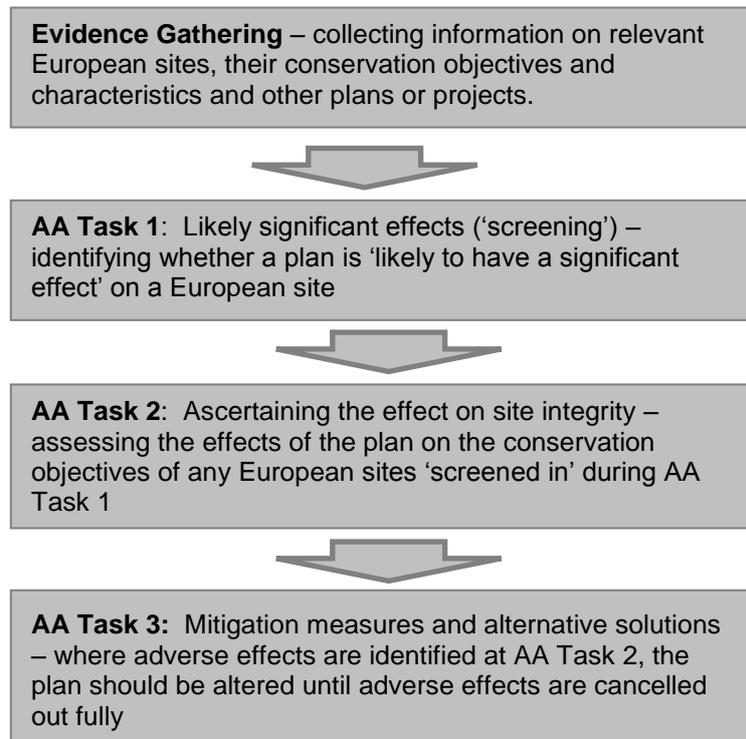
Principle	Rationale
Use existing information	Make the best use of existing information to inform the assessment. This will include information gathered as part of the SA of the emerging Plan and information held by Natural England, the Environment Agency and others.
Consult with Natural England, the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

### 2.2 Process

The HRA is being carried out in the absence of formal Government guidance. Communities and Local Government released a consultation paper on Appropriate Assessment of Plans in 2006<sup>1</sup>. As yet, no further formal guidance has emerged.

Figure 2 below outlines the stages of HRA according to current draft CLG guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no significant adverse effects remain.

<sup>1</sup> CLG (2006) Planning for the Protection of European Sites, Consultation Paper



**Figure 2 – Four-Stage Approach to Habitats Regulations Assessment** (Source: CLG, 2006)

**2.3 Likely Significant Effects (LSE)**

The first stage of any Habitat Regulations Assessment (AA Task 1) is a Likely Significant Effect (LSE) test - essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

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

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

The purpose of the current report is to undertake this exercise with regard to the Issues and Options stage of the Local Plan.

**2.4 Confirming other plans and projects that may act ‘in combination’**

It is clearly neither practical nor necessary to assess the ‘in combination’ effects of the Local Plan within the context of all other plans and projects within the South East. In practice therefore, in combination assessment is of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential. For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects relate to the additional housing, transportation and commercial/industrial allocations proposed for other neighbouring authorities over the lifetime

of the Local Plan. Although the South East Plan has been partially revoked (March 2013) housing allocations contained therein still provide a good introduction to proposals for areas surrounding Guildford Borough.

**Table 2. Housing levels that were to be delivered in authorities surrounding the Thames Basin Heaths SPA under the South East Plan. Although there have been some changes to housing numbers since the Secretary of State expressed his intent to revoke the Plan, the broad overall scale of development is likely to remain fairly accurate.**

Local Authority	Total housing to 2026
Basingstoke & Deane	18,900
Bracknell Forest	12,780
Elmbridge	5,620
Hart	4,400
Mole Valley	3,760
Runnymede	5,720
Rushmoor	6,200
Surrey Heath	3,740
Windsor & Maidenhead	6,920
Woking	5,840
Wokingham	12,460

There are other plans and projects that are often relevant to the ‘in combination’ assessment, most notably South East Water’s final Water Resource Management Plan (December 2010) and the Environment Agency’s River Wey Catchment Abstraction Management Strategy. These have all been taken into account in this assessment.

Table 3 summarises documents that we have reviewed to inform our assessment:

**Table 3. Documents reviewed in order to inform this assessment**

Document	Relevant contents
Environment Agency (2012) The Wey Catchment Abstraction Licencing Strategy	<ul style="list-style-type: none"> <li>Sets out the Environment Agency’s position regarding future abstraction within the Wey Catchment</li> </ul>
Guildford Borough Council (2010) Thames Basin Heaths Avoidance Strategy	<ul style="list-style-type: none"> <li>Guildford’s approach to development in consideration of the Thames Basin Heaths area.</li> </ul>
Thames Basin Heaths Joint Strategic Partnership Board (2009) Thames Basin Heaths SPA Delivery Framework	<ul style="list-style-type: none"> <li>Sets out the agreed Framework regarding the Thames Basin Heaths SPA</li> </ul>
Natural England (2006) Thames Basin Heaths Special Protection Area: Mitigation Standards for Residential Development. 26 May 2006.	<ul style="list-style-type: none"> <li>Avoidance and mitigation for recreational impacts on heathland SPA.</li> </ul>
Environment Agency (various) Stage 3 and 4 Appropriate Assessments: Review of Consents	<ul style="list-style-type: none"> <li>Understanding of existing conditions at European sites</li> </ul>

Document		Relevant contents
Environment Agency (2006a)	Water Resources in the South East report to latest South East Plan housing provision and distribution received from SEERA. May 2006, for commentary to SEERA	<ul style="list-style-type: none"> <li>Water resources.</li> </ul>
Thames Water (July 2012)	Final Water Resource Management Plan	<ul style="list-style-type: none"> <li>Sets out the proposed approach to providing water resources in the future</li> </ul>
Environment Agency (2006b)	Creating a Better Place: Planning for Water Quality and Growth in the South East. Version 10.4	<ul style="list-style-type: none"> <li>Sewage treatment capacity.</li> </ul>
Government Office for the South East (2009)	The South East Plan (final version)	<ul style="list-style-type: none"> <li>Housing figures for Guildford Borough and for surrounding Boroughs and Districts.</li> <li>Other local proposals.</li> <li>General development context for SE England.</li> </ul>
Assessors Report by Peter Burley (2007)	Report to the Panel for the Draft South East Plan Examination in Public on the Thames Basin Heaths Special Protection Area and Natural England's Draft Delivery Plan. 19 February 2007.	<ul style="list-style-type: none"> <li>Comments on Natural England's Draft Delivery Document.</li> </ul>
Surrey County Council (2011)	The Surrey Local Transport Plan, 2011 – 2026.	<ul style="list-style-type: none"> <li>Transport schemes.</li> </ul>
Core Strategies and Local Plans for neighbouring local authorities	Spatial development policies for Woking, Elmbridge, Waverley, Mole Valley, Rushmoor, and Surrey Heath	<ul style="list-style-type: none"> <li>Provides projected levels of housing for authorities surrounding Guildford Borough</li> </ul>

In preparing this HRA we have utilised data held on the following sources in order to inform on the current ecological status of relevant European sites:

- The UK Air Pollution Information System ([www.apis.ac.uk](http://www.apis.ac.uk)); and
- Nature on the Map and its links to SSSI citations and the JNCC website ([www.natureonthemap.org.uk](http://www.natureonthemap.org.uk))

### 3 PATHWAYS OF IMPACT

#### 3.1 Introduction

In carrying out an HRA it is important to determine the various ways in which land use plans can impact on European sites by following the pathways along which development can be connected with European sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with a development can lead to an effect upon a European site.

#### 3.2 Urbanisation

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

- Increased fly-tipping - Rubbish tipping is unsightly but the principle adverse ecological effect of tipping is the introduction of invasive alien species with garden waste. Garden waste results in the introduction of invasive aliens precisely because it is the 'troublesome and over-exuberant' garden plants that are typically thrown out<sup>2</sup>. Alien species may also be introduced deliberately or may be bird-sown from local gardens.
- Cat predation - A survey performed in 1997 indicated that nine million British cats brought home 92 million prey items over a five-month period<sup>3</sup>. A large proportion of domestic cats are found in urban situations, and increasing urbanisation is likely to lead to increased cat predation.

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

After extensive research, Natural England and its partners produced a 'Delivery Plan' which made recommendations for accommodating development while also protecting the interest features of the European site. This included the recommendation of implementing a series of zones within which varying constraints would be placed upon development. While the zones relating to recreational pressure expanded to 5km (as this was determined from visitor surveys to be the principal recreational catchment for this European site), that concerning other aspects of urbanisation (particularly predation of the chicks of ground-nesting birds by domestic cats, but also including recreational pressure, fly tipping, increased incidence of fires and general urbanisation) was determined at 400m from the SPA boundary. The delivery plan concluded that the adverse effects of any development located within 400m of the SPA boundary could not be mitigated, in part because this was the range within cats could be expected to roam as a matter of routine and there was no realistic way of restricting their movements, and as such, no new housing should be located within this zone.

Guildford Council is a participatory organisation within the Thames Basin Heaths SPA Delivery Plan, including the prohibition on net new housing within 400m of the SPA. As such, the Guildford Borough Local Plan Issues and Options document does not promote any residential development within 400m of the Thames Basin Heaths SPA. For example on page 65 of the Plan with regard to possibilities for developing land around the greenbelt, the Local Plan identifies that land that is to the north east of Ash and Tongham the majority of this land is too

<sup>2</sup> Gilbert, O. & Bevan, D. 1997. The effect of urbanisation on ancient woodlands. *British Wildlife* 8: 213-218.

<sup>3</sup> Woods, M. et al. 2003. Predation of wildlife by domestic cats *Felis catus* in Great Britain. *Mammal Review* 33, 2 174-188

close to the Thames Basin Heaths Special Protection Area for new development to be suitable, while on Page 67 land to the north of Guildford at Tangle Place Farm is also identified as being too close to the Thames Basin Heaths SPA. Due to this commitment the impacts of urbanisation as they relate to development within 400m of the SPA do not need to be considered further within this HRA.

### 3.3 Recreational pressure

Consultation for the HRA of the (now partially revoked) South East Plan revealed that potentially damaging levels of recreational pressure are already faced by many European sites. Recreational use of a site has the potential to:

- Cause disturbance to sensitive species, particularly ground-nesting birds such as woodlark and nightjar, and wintering wildfowl;
- Prevent appropriate management or exacerbate existing management difficulties;
- Cause damage through erosion; and
- Cause eutrophication as a result of dog fouling.

Different types of European sites (e.g. heathland, chalk grassland) are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex.

The effects of recreation on heathland sites have been described in a series of recent English Nature Research Reports<sup>4 5 6 7 8 9</sup>. It would appear that recreational pressure can have a significant adverse effect on the Annex 1 bird species for which the SPAs in this area are designated. Disturbance can have an adverse effect in various ways, with increased nest predation by natural predators as a result of adults being flushed from the nest and deterred from returning to it by the presence of people and dogs likely to be a particular problem. A literature review on the effects of human disturbance on bird breeding found that 36 out of 40 studies reported reduced breeding success as a consequence of disturbance<sup>10</sup>. The main reasons given for the reduction in breeding success were nest abandonment and increased predation of eggs or young. Over years, studies of other species have shown that birds nest at lower densities in disturbed areas, particularly when there is weekday as well as weekend pressure<sup>11</sup>.

A number of studies have shown that birds are affected more by dogs and people with dogs than by people alone, with birds flushing more readily, more frequently, at greater distances and for longer (Underhill-Day, 2005). In addition, dogs, rather than people, tend to be the cause of many management difficulties, notably by worrying grazing animals, and can cause

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<sup>4</sup> Liley, D. and R.T. Clarke (2002) – Urban development adjacent to heathland sites in Dorset: the effect on the density and settlement patterns of Annex 1 bird species. *English Nature Research Reports*, No. 463.

<sup>5</sup> Murison, G. (2002) – The impact of human disturbance on the breeding success of nightjar *Caprimulgus europaeus* on heathlands in south Dorset, England. *English Nature Research Reports*, No. 483.

<sup>6</sup> Land Use Consultants (2005) – Going, going, gone? The cumulative impact of land development on biodiversity in England. *English Nature Research Reports*, No. 626.

<sup>7</sup> Rose, R.J. and R.T. Clarke (2005) – Urban impacts on Dorset Heathlands: Analysis of the heathland visitor questionnaire survey and heathland fires incidence data sets. *English Nature Research Reports*, No. 624.

<sup>8</sup> Tyldesley, D. and associates (2005) – Urban impacts on Dorset heaths: A review of authoritative planning and related decisions. *English Nature Research Reports*, No. 622.

<sup>9</sup> Underhill-Day, J.C. (2005) – A literature review of urban effects on lowland heaths and their wildlife. *English Nature Research Reports*, No. 623.

<sup>10</sup> Hockin, D., M. Oundsted, M. Gorman, D. Hill, V. Keller and M.A. Barker (1992) – Examination of the effects of disturbance on birds with reference to its importance in ecological assessments. *Journal of Environmental Management*, **36**, 253-286.

<sup>11</sup> Van der Zande, A.N., J.C. Berkhuisen, H.C. van Letesteyn, W.J. ter Keurs and A.J. Poppelaars (1984) – Impact of outdoor recreation on the density of a number of breeding bird species in woods adjacent to urban residential areas. *Biological Conservation*, **30**, 1-39.

eutrophication near paths. Nutrient-poor habitats such as heathland are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces<sup>12</sup>.

Underhill-Day (2005) summarises the results of visitor studies that have collected data on the use of semi-natural habitat by dogs. In surveys where 100 observations or more were reported, the mean percentage of visitors who were accompanied by dogs was 54.0%.

However these studies need to be treated with care. For instance, the effect of disturbance is not necessarily correlated with the impact of disturbance, i.e. the most easily disturbed species are not necessarily those that will suffer the greatest impacts. It has been shown that, in some cases, the most easily disturbed birds simply move to other feeding sites, whilst others may remain (possibly due to an absence of alternative sites) and thus suffer greater impacts on their population<sup>13</sup>. A recent literature review undertaken for the RSPB<sup>14</sup> also urges caution when extrapolating the results of one disturbance study because responses differ between species and the response of one species may differ according to local environmental conditions. These facts have to be taken into account when attempting to predict the impacts of future recreational pressure on European sites.

It should be emphasised that recreational use is not inevitably a problem. Many European sites are also National Nature Reserves (e.g. Thursley Common) or nature reserves managed by wildlife trusts and the RSPB. At these sites, access is encouraged and resources are available to ensure that recreational use is managed appropriately.

Where increased recreational use is predicted to cause adverse impacts on a site, avoidance and mitigation should be considered. Avoidance of recreational impacts at European sites involves location of new development away from such sites; Local Plans (and other strategic plans) provide the mechanism for this. Where avoidance is not possible, mitigation will usually involve a mix of access management, habitat management and provision of alternative recreational space:

- *Access management* – restricting access to some or all of a European site - is not usually within the remit of the Council and restriction of access may contravene a range of Government policies on access to open space, and Government objectives for increasing exercise, improving health etc. However, active management of access is possible, for example as practised on nature reserves.
- *Habitat management* is not within the direct remit of the Council. However the Council can help to set a framework for improved habitat management by promoting cross-authority collaboration and S106 funding of habitat management. In the case of Guildford, opportunities for this are limited since, according to Natural England, the majority of Thames Basin Heath component SSSI units are in favourable or favourable recovering conditions.
- *Provision of alternative recreational space* can help to attract recreational users away from sensitive European sites, and reduce additional pressure on them. Some species for which European sites have been designated are particularly sensitive to dogs, and many dog walkers may be happy to be diverted to other, less sensitive, sites. However the location and type of alternative space must be attractive for users to be effective. Guildford's SANGS capacity (at March 2013) stood at 70.16ha. This is the remaining SANGS capacity currently available once SANGS for existing applications (i.e. those not yet determined, or which are currently at appeal) has been subtracted from the

<sup>12</sup> Shaw, P.J.A., K. Lankey and S.A. Hollingham (1995) – Impacts of trampling and dog fouling on vegetation and soil conditions on Headley Heath. *The London Naturalist*, **74**, 77-82.

<sup>13</sup> Gill et al. (2001) - Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation*, **97**, 265-268

<sup>14</sup> Woodfield & Langston (2004) - Literature review on the impact on bird population of disturbance due to human access on foot. *RSPB research report* No. 9.

SANGS area within the Borough. A further 207ha (approximately) is currently identified as future potential SANGS, but not confirmed. It is recognised that the timely delivery of this suitable habitat in advance of occupation of dwellings will be essential.

### 3.4 Atmospheric pollution

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

**Table 4. Main sources and effects of air pollutants on habitats and species**

Pollutant	Source	Effects on habitats and species
Acid deposition	SO <sub>2</sub> , NO <sub>x</sub> and ammonia all contribute to acid deposition. Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased nitrogen emissions may cancel out any gains produced by reduced sulphur levels.	Can affect habitats and species through both wet (acid rain) and dry deposition. Some sites will be more at risk than others depending on soil type, bed rock geology, weathering rate and buffering capacity.
Ammonia (NH <sub>3</sub> )	Ammonia is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but levels have increased considerably with expansion in numbers of agricultural livestock. Ammonia reacts with acid pollutants such as the products of SO <sub>2</sub> and NO <sub>x</sub> emissions to produce fine ammonium (NH <sub>4</sub> <sup>+</sup> ) containing aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.)	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH <sub>3</sub> is rapidly deposited, some of the most acute problems of NH <sub>3</sub> deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides NO <sub>x</sub>	Nitrogen oxides are mostly produced in combustion processes. About one quarter of the UK's emissions are from power stations.	Deposition of nitrogen compounds (nitrates (NO <sub>3</sub> ), nitrogen dioxide (NO <sub>2</sub> ) and nitric acid (HNO <sub>3</sub> )) can lead to both soil and freshwater acidification. In addition, NO <sub>x</sub> can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.

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

Sulphur dioxide emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions. As such, it is unlikely that material increases in SO<sub>2</sub> or NH<sub>3</sub> emissions will be associated with Local Plans. NO<sub>x</sub> emissions, however, are dominated by the output of vehicle exhausts. Within a ‘typical’ housing development, by far the largest contribution to NO<sub>x</sub> (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison<sup>15</sup>. Emissions of NO<sub>x</sub> could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the LDF.

According to the World Health Organisation, the critical NO<sub>x</sub> concentration (critical threshold) for the protection of vegetation is 30 µgm<sup>-3</sup>; the threshold for sulphur dioxide is 20 µgm<sup>-3</sup>. In addition, ecological studies have determined ‘critical loads’<sup>16</sup> of atmospheric nitrogen deposition (that is, NO<sub>x</sub> combined with ammonia NH<sub>3</sub>) for key habitats within European sites.

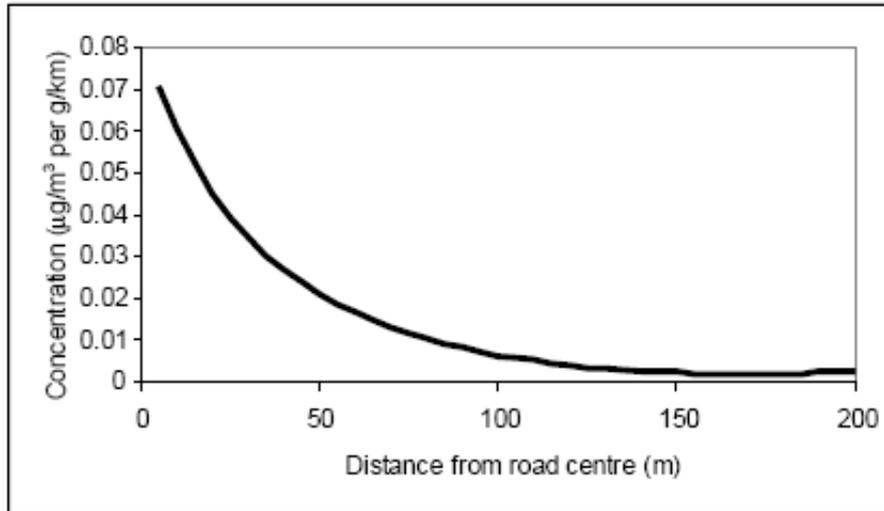
<sup>15</sup> Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. <http://www.airquality.co.uk/archive/index.php>

<sup>16</sup> The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur

**Local Air Pollution**

According to the Department of Transport’s Transport Analysis Guidance, “Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant”<sup>17</sup>.

**Figure 3. Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)**



This is therefore the distance that has been used throughout this HRA in order to determine whether European sites are likely to be significantly affected by development under the Local Plan. Given that the Thames Basin Heaths SPA lies within 200m of numerous roads that may be regularly used by vehicle journeys arising from within Guildford borough as a result of the increased population, it was concluded that air quality should be included within the scope of this assessment. The location of these roads in relation to the SPA is shown in Figure 1.

**Diffuse air pollution**

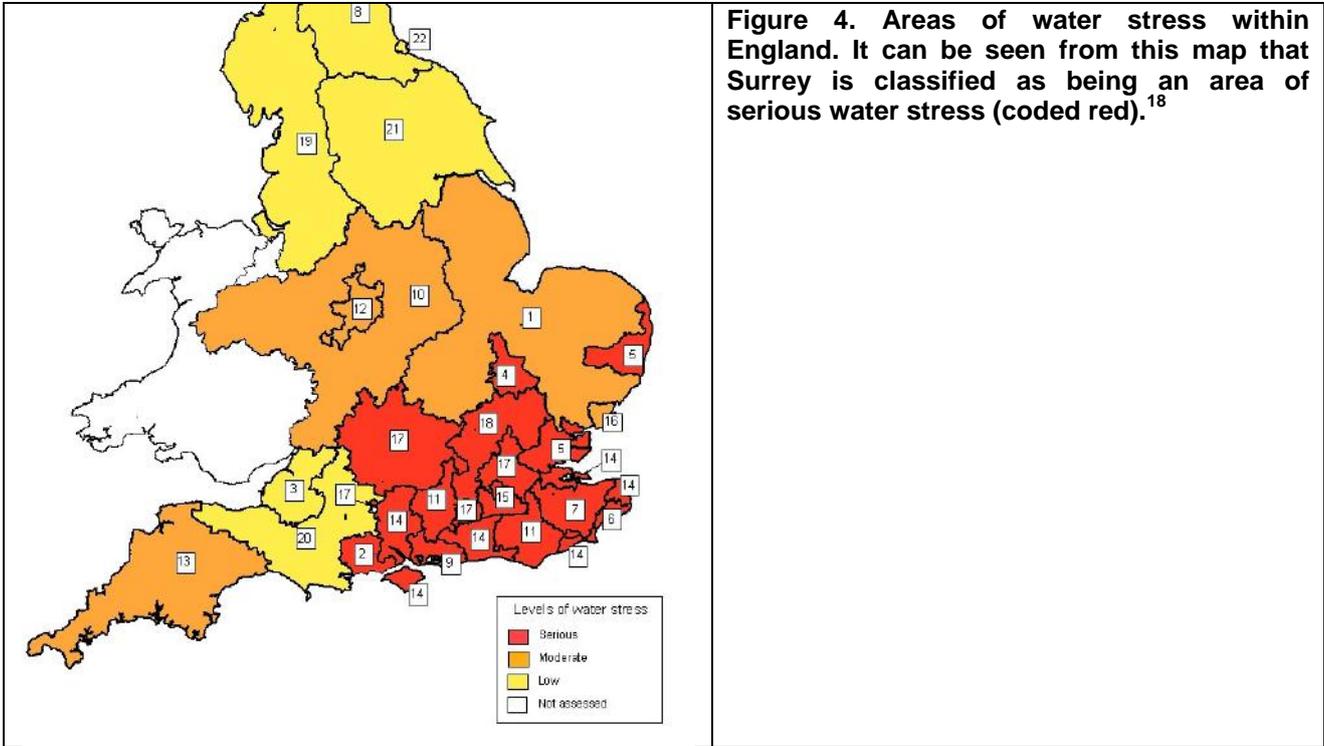
In addition to the contribution to local air quality issues, development can also contribute cumulatively to an overall deterioration in background air quality across an entire region. In July 2006, when this issue was raised by Runnymede Borough Council in the South East, Natural England advised that their Local Development Framework ‘can only be concerned with locally emitted and short range locally acting pollutants’ as this is the only scale which falls within a local authority remit. It is understood that this guidance was not intended to set a precedent, but it inevitably does so since (as far as we are aware) it is the only formal guidance that has been issued to a Local Authority from any Natural England office on this issue.

In the light of this and our own knowledge and experience, it is considered reasonable to conclude that diffuse pan-authority air quality impacts are the responsibility of higher tier strategies or national government, both since they relate to the overall quantum of development within a region (over which individual districts have little control), and since this issue is best addressed at the highest pan-authority level. Diffuse air quality issues will not therefore be considered further within this HRA.

<sup>17</sup> [www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf](http://www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf)

**3.5 Water abstraction**

The South East is generally an area of high water stress (see Figure 4).



Development within Guildford Borough over the plan period will increase water demand.

According to the Wey Catchment Abstraction Management Strategy Guildford Borough lies within several Water Resource Management Units:

- Cranleigh Waters (surface water);
- Tillingbourne (surface and ground water);
- River Wey and Hoe Stream (surface water);
- Lower Wey Chalk (ground water); and
- Lower Wey Greensand (ground water).

The surface water and groundwater within these Wey catchment units is that there is no water available for licensing.

Guildford borough lies within Thames Water’s Guildford Water Resource Zone. According to the Water Resource Management Plan (2012) this water resource zone is calculated to be in surplus over the entire plan period. The WRMP states that “no deficit exists for Guildford WRZ on average or peak, based on the baseline supply demand balance throughout the planning period. There is therefore no planning problem to solve.” Despite this, Thames Water intend to

<sup>18</sup> Figure adapted from Environment Agency. 2007. Identifying Areas of Water Stress. <http://publications.environment-agency.gov.uk/pdf/GEHO0107BLUT-e-e.pdf>

extend their water efficiency, leakage reduction and metering programmes into the zone in order to conserve resources. The determination of surplus or deficit does take account of environmental limits and the implication is that there should be no requirement for damaging levels of abstraction from any of the aquifers connected to these European sites.

### **3.6 Water quality**

Development within Guildford Borough over the plan period will increase wastewater production. Wastewater from the District is treated by Thames Water and discharges to the River Wey or River Blackwater, which ultimately drains to the River Thames. Neither of these rivers are European sites.

Moreover, research carried out by the Environment Agency has indicated that future sewage treatment capacity at Guildford sewage treatment works can be rendered adequate to deal with projected growth, at least to 2026 given relatively small capital cost<sup>19</sup> and will therefore not have an adverse effect upon receiving waters.

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<sup>19</sup> Environment Agency. May 2006. Creating a Better Place: Planning for Water Quality and Growth in the South East.

## 4 THAMES BASIN HEATHS SPA

### 4.1 Introduction

Thames Basin Heaths Special Protection Area consists of a number of fragments of lowland heathland scattered across Surrey, Hampshire and Berkshire. It is predominantly dry and wet heath but also includes area of deciduous woodland, gorse scrub, acid grassland and mire, as well as associated conifer plantations. Around 75% of the SPA has open public access being either common land or designated as open country under the Countryside and Rights of Way Act 2000. The SPA consists of 13 Sites of Special Scientific Interest (SSSI). Three of the SSSIs are also designated as part of the Thursley, Ash, Pirbright and Chobham Special Area of Conservation (SAC).

Ash to Brookwood Heaths SSSI, Whitmoor Common SSSI, Colony Bog and Bagshot Heaths SSSI and Ockham and Wisley Commons SSSI lie within or partly within Guildford Borough.

The location of the Thames Basin Heaths has resulted in the area being subject to high development pressure. English Nature (now Natural England) published a Draft Delivery Plan for the Thames Basin Heaths SPA in May 2006, partly in response to the European Court of Justice ruling of October 2005. This is updated by the 'Thames Basin Heaths Special Protection Delivery Framework' published by the Thames Basin Heaths Joint Strategic Partnership Board in January 2009. These documents aim to allow a strategic approach to accommodating development by providing a method through which local authorities can meet the requirements of the Habitats Regulations through avoidance and mitigation measures.

In addition Guildford Borough Council has produced a Thames Basin Heaths Avoidance Strategy (2009-2014), which has identified that between 400m and 5km of the SPA boundary, development will only be possible if it can demonstrate adequate avoidance or mitigation of significant adverse effects through recreational pressure.

### 4.2 Features of European interest<sup>20</sup>

Thames Basin Heaths SPA qualifies under Article 4.1 of the Birds Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

During the breeding season:

- Nightjar *Caprimulgus europaeus*: 7.8% of the breeding population in Great Britain (count mean, 1998-1999);
- Woodlark *Lullula arborea*: 9.9% of the breeding population in Great Britain (count as at 1997);
- Dartford warbler *Sylvia undata*: 27.8% of the breeding population in Great Britain (count as at 1999).

These species nest on or near the ground and as a result are susceptible to predation and disturbance.

<sup>20</sup> Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

#### 4.3 Conservation objectives

The Conservation Objectives for the European interests on the SSSI are, subject to natural changes:

- to maintain\*, in favourable condition, the habitats for the populations of Annex 1 bird species+ of European importance, with particular reference to: lowland heathland and rotationally managed plantation.

\* maintenance implies restoration if the feature is not currently in favourable condition.

+ Nightjar, woodlark and Dartford warbler.

#### 4.4 Key environmental conditions

The key environmental conditions that support the features of European interest have been defined as:

- Appropriate management.
- Management of disturbance during breeding season (March to July).
- Minimal air pollution.
- Absence or control of urbanisation effects, such as fires and introduction of invasive non-native species.
- Maintenance of appropriate water levels.
- Maintenance of water quality.

#### 4.5 Potential effects of the plan

Two potential impacts of the LDF Core Strategy upon the SPA have been identified:

- Recreational disturbance.
- Air pollution.

##### **Recreational disturbance**

Ground-nesting birds are vulnerable to disturbance, particularly from walkers and dogs. Disturbance can have an adverse effect in various ways, with increased nest predation by natural predators as a result of adults being flushed from the nest and deterred from returning to it by the presence of people and dogs likely to be a particular problem. Several studies have demonstrated that site-specific information is required to understand the relationship between recreational use of a site and any disturbance effects.

An estimated 5 million visitors use the Thames Basin Heaths per annum and of those people interviewed 13% had arrived on foot from less than 1.5km away and 83% had driven from within 5km<sup>21</sup>. The survey was conducted at a number of access points to the SPA and reported a positive correlation between the number of visitors recorded and both the proximity of the access point to a residential area and the amount of parking available.

The population of the 11 authorities around the Thames Basin Heaths SPA is forecast to increase from 1.19 million in 2003 (1.21 million in 2006) to 1.3 million in 2026 (2003 sub-national population projections). This 10% increase in population is notwithstanding the

<sup>21</sup> Liley, D. et al. 2005. Visitor access patterns on the Thames Basin Heaths. *English Nature Research Report*, English Nature, Peterborough

forecasted reduction in average household size or any changes in population growth trends subsequent to the 2003 statistics. The projected 10% growth in population (assuming similar usage of recreational facilities) could lead to at least comparable increase in visits to the Thames Basin Heaths<sup>22</sup>. Such an increased use could have a cumulative impact upon the SPA.

Effects of the plan could occur due to housing development leading to increased recreational pressure. However, this would effectively be mitigated by implementation of the strategically agreed Thames Basin Heaths Delivery Framework in Guildford with the provision of 8ha/1000 population of Suitable Accessible Natural Green Space (SANGS) and contributions to the Strategic Access Management and Monitoring (SAMM) programme.

Guildford Borough Council has identified seven potential alternative housing strategies that for consideration.

**Table 5 – Guildford Housing Alternatives**

<b>Alternative</b>	<b>Total housing to be delivered to 2031</b>
1: Limited urban concentration	7517
2: Rural dispersal	8245
3: Limited hub and spoke	10027
4: Urban concentration	11851
5: Village concentration	13165
6: Hub and spoke	14361
7: Potential maximum capacity	21456

The Council, in its Issues and Options paper, has also developed a series of options for the distribution of housing under whichever scenario is taken forward. Given the proximity of the majority of Guildford Borough to the Thames Basin Heaths SPA, these broad distribution scenarios are not key to assessment through HRA, since all would encompass development that would occur within 5km of the SPA.

The Thames Basin Heaths SPA Avoidance Strategy (2009-2014) developed by Guildford Borough in accordance with the Thames Basin Heaths Delivery Framework has identified that between 400m and 5km of the SPA boundary, development will only be possible if it can demonstrate adequate avoidance or mitigation of significant adverse effects due to recreational pressure.

In the aforementioned Avoidance Strategy, there have been three approaches identified that can lead to avoidance or mitigation of adverse effects:

- The provision of SANGS to attract people away from the SPA and hence reduce pressure on it;
- Access management measures on, and monitoring of, the SPA to reduce the impact of people who visit the SPA (SAMM); and

<sup>22</sup> Submission of Wokingham Borough Council (7265) to the Thames Basin Heaths Technical Sessions for the Examination in Public of The South East Plan

- Habitat management of the SPA, which will improve the habitat for the ground nesting birds.

New development can provide, or make a contribution toward the provision of SANGS and SAMM, and in so doing contribute toward meeting the requirements of HRA.

The Thames Basin Heaths Special Protection Area Delivery Framework identifies that new development between 400m and 5km from the SPA will need to develop or contribute to SANGS capacity.

Natural England’s guidance is as follows:

- No development will be possible within 400m of the SPA.
- SANGS of 12ha or less can supply a development within a catchment area of 400m-2km;
- SANGS of 12-20ha are sufficient to supply a 4km radius;
- SANGS of 20+ha can supply 5km;
- SANGS are usually not required for development beyond 5km of the SPA. However, major development at distances of 5-7km from the SPA boundary would be assessed on a case-by-case basis.

#### 4.6 Avoidance and Mitigation

The Council has developed seven potential growth scenarios. A basic appraisal is that the option with least constraints (i.e. least need for SANGS) would be Alternative 1 since this relies on delivering the least volume of new housing, whilst Alternative 7 would be the least favoured option since this seeks to deliver the greatest volume.

However, a more informed method of evaluating the deliverability of the growth scenarios is to calculate whether the remaining identified available SANG capacity (or future capacity with a reasonable likelihood of delivery) for the borough could accommodate the number of dwellings required in each scenario.

Guildford’s SANGS capacity (at June 2013) stood at 60.02ha. This is the remaining SANGS capacity currently available once SANGS for existing applications (i.e. those not yet determined, or which are currently at appeal) has been subtracted from the SANGS area within the Borough. A further 207ha (approximately) is currently identified as future potential SANGS, but not confirmed (see Table 6).

**Table 6: Guildford SANGS capacity (June 2013)**

SANGS site	Unallocated Capacity (ha)	Total capacity (ha)	Radius of development that can be served (km)	Capacity for development (Units)
Riverside	3.84	15	4	200
Effingham	32.99	34	5 (provided a car park can be accommodated)	1,718
Lakeside	0.11	4	2	5
Chantry Wood	32.04	38	5	1,669
Parsonage Water Meadows	8.84	9	2	460
SANG TBA	-17.79		NA	
<b>TOTAL</b>	<b>60.02</b>			

SANGS site	Unallocated Capacity (ha)	Total capacity (ha)	Radius of development that can be served (km)	Capacity for development (Units)
<b>Unconfirmed SANGS sites</b>				
Tongham Pools, Broadstreet and Backside Common, Stringer's Common,	160.56			8,363
Tying Farm, 47H so capacity of 2,448	47			2,448
<b>Total unconfirmed</b>	<b>207.56</b>			<b>10,811</b>

SANGS delivery within the 5km zone, according to the Avoidance Strategy, should be at 8ha/1000 head of population, and it is assumed that the average occupancy rate would be 2.4 residents per dwelling.

Therefore the maximum number of net new dwellings that could be delivered within existing SANGS capacity would be **3,125** ( $60.02/8 = 7.5$ ;  $(7.5 \times 1000)/2.4 = 3125$ ). If the further 207 ha of SANGS mentioned above were to become available, then **13,937** new dwellings could be delivered, on the same basis.

**Therefore there is capacity for Guildford to deliver Alternatives 1-5 if future SANG capacity can be confirmed, but precise locations for delivery will need to be considered in relation to distribution and capacity of such SANGS. Alternatives 6-7 could not be delivered even if the maximum currently identified SANG capacity were exploited. However, the Council has indicated that further SANG capacity (e.g. Tying Farm) may be identified.**

At this stage of the plan development, spatial Scenarios are not confirmed and so no detailed analysis of distribution of housing options has been undertaken. However, the following broad considerations would apply to the alternatives put forward.

Alternatives 1-5

The major housing sites would all lie within 5km of the Thames Basin Heaths. Distribution of approximately 2,000 new dwellings in the west of the Borough would create requirement for additional SANGS, primarily at Broadstreet and Backside Commons to accommodate the majority of this development. Additional SANG capacity would also be required in order to accommodate development in Guildford and nearby. These alternatives would be likely to require SANG at Stringer's Common as development North East of Guildford appears to lie beyond the distance at which Broadstreet and Backside Commons would provide suitable SANG. Development at Tongham may be limited by the scope of available and potential SANG to cover this area.

Alternatives 6-7

As already stated, insufficient existing and potential SANGS capacity currently exists in order to facilitate these alternatives. Under Scenario 5 there would appear to be insufficient SANG distribution to deliver the proposed 2,200 new dwellings at Send Marsh. Under Scenario 6 the levels of development proposed at Guildford would appear to exceed SANG availability (both the existing capacity and the 207 ha potential capacity).

At recent Examinations in Public in the Thames Basin Heaths area, Natural England have focused heavily on deliverability of SANG capacity to meet new housing needs. Therefore, it is

strongly advised that Guildford Council work to firm up the likelihood of sufficient unconfirmed SANGS becoming achievable, otherwise questions will remain over the deliverability of housing commitments.

### **Air Pollution**

Development proposed within the Local Plan is likely to result in increased car use, notably as a consequence of housing development. Housing options indicate that between 7,517 and 21,456 new homes could potentially be delivered in the period to 2031.

Development within Guildford borough will operate cumulatively with that in surrounding authorities to result in an increase in vehicle flows on roads within 200m of the Thames Basin Heaths SPA. When coupled with the approximately 90,000 new homes identified for the remaining Boroughs adjacent to the Heaths (Windsor & Maidenhead, Wokingham, Bracknell Forest, Basingstoke & Deane, Rushmoor, Hart, Surrey Heath, Elmbridge, Mole Valley, Runnymede and Woking), there is an even greater likelihood of a substantial increase in traffic movements on the major roads that bisect the components of the European sites.

Department for Transport Guidance as expressed in the Design Manual for Roads and Bridges (DMRB)<sup>23</sup> states that the first process in determining air quality impacts from road schemes is to determine whether the road in question is an 'affected road' which is defined as, among other criteria, if it will experience an increase in flows of more than 1,000 per day (Average Annual Daily Traffic (AADT)).

The Guildford Borough Preliminary Growth Scenarios Transport Assessment Report (Surrey County Council, January 2013) has considered the cumulative traffic impacts of various preliminary scenarios for future residential and commercial development within and outside the borough, to the forecast year of 2031. The change in flows on a series of roads, including various that lie within 200m of the SPA within Guildford borough, was forecast. These take into account not only the preliminary scenarios for residential and commercial development in the borough, but also background population growth in surrounding authorities over the Local Plan period.

For those roads where increases in Average Annual Daily Traffic were forecast to exceed 1,000 AADT, air quality calculations were then undertaken. Since this analysis was undertaken, the scenarios for residential and commercial development have been revised, in terms of both the quantum and distribution of development. The maximum quantum of development considered in the preliminary transport modelling scenarios, as set out in the January 2013 report, correspond to a total quantum of development between Scenarios 4 and 5 of the revised scenarios, although the distribution of this development is different. However, it is still possible to generate meaningful conclusions from the existing modelling. The results of the air quality calculations are summarised in Table 7. Environment Agency guidance<sup>24</sup>, to which Natural England also subscribe, advises that '*Where the concentration within the emission footprint [i.e. the contribution of the project/plan in question] in any part of the European site(s) is less than 1% of the relevant long-term benchmark (EAL, Critical Level or Critical Load), the emission is not likely to have a significant effect alone or in combination irrespective of the background levels*'. However, this does not mean that an increase in deposition rate equivalent to more than 1% of the critical level/load will lead to an adverse effect, but rather than further consideration is required.

<sup>23</sup> Design Manual for Roads and Bridges, Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1: Air Quality

<sup>24</sup> Environment Agency. 2007. Appendix ASC 1 Environment Agency Stage 1 and 2 Assessment of New PIR Permissions under the Habitats Regulations

**Table 7 – Modelled NOx concentrations within 200m of the Thames Basin Heaths SPA on roads within Guildford Borough**

Road	Grid reference	Is increase for any scenario greater than 1% of the critical level?	Alternatives for which an increase of more than 1% of the critical level is predicted <sup>25</sup>	Would total future concentration exceed critical level for any Alternative? <sup>26</sup>	Distance band from road at which exceedance applies (modelled at 3, 50 and 100m)
A322	496769,154045	Yes	1 – 7 (i.e. all Alternatives)	Yes, for all Alternatives	3m; in all cases NOx levels would decline to below the critical level by 25m from the roadside.
A324	492999,152530	Yes	1 – 7 (i.e. all Alternatives)	Yes, for all Alternatives	3m; in all cases NOx levels would decline to below the critical level by 25m from the roadside.
A320	499482,153816	No	None	No	None
B3032	495465,154732	Yes	1 – 7 (i.e. all Alternatives)	No	None

For all Alternatives, an increase in NOx concentration equivalent to more than 1% of the critical level would occur alongside the A322, A324 and B3032 due to traffic associated with the new housing.

For all Alternatives in relation to the A322 and the A324 not only would an increase in NOx concentrations at the roadside equivalent to more than 1% of the critical level occur, but the total NOx concentrations would also slightly exceed the critical level of  $30\mu\text{g}\text{m}^{-3}$ . A slight deleterious effect on vegetation at the roadside may therefore occur. However, in all instances this would only occur immediately adjacent to the roadside with concentrations declining below the critical level at distances of 25m from the roadside. As such, it is unlikely that an adverse effect on the integrity of the SPA would occur since the areas immediately adjacent to the road are likely to already be subject to considerable edge effects due to other reasons and the vegetation is therefore already likely to be atypical for the SPA. Nonetheless, the local authority should devise transport policies that seek to maximise use of sustainable transport in order to ensure that increases in NOx concentration due to road traffic associated with new housing in Guildford borough are minimised.

In addition to NOx concentrations, changes in acid deposition rates at 3m from the roadside would also exceed 1% the critical load (an increase of 0.02 keq/ha/yr or greater compared to a

<sup>25</sup> Determined to be greater than 1% increase compared to background concentrations

<sup>26</sup> Critical level for NOx in relation to vegetation is  $30\mu\text{g}\text{m}^{-3}$

CL<sub>max</sub>N of 0.91 keq/ha/yr) and on such occasions total acid deposition rates within that distance band would exceed the critical load for acid deposition (being 1.1 keq/ha/yr or greater compared to 0.91 keq/ha/yr). This effect only applies at the B3032, at least for Scenarios 1-3. Moreover the UK Air Pollution Information Systems indicates that the species for which the SPA is designated (nightjar, woodlark and Dartford warbler) are not sensitive to acid deposition.

Under all Scenarios, changes in nitrogen deposition would result in an increase above 1% of the minimum critical load for heathland at 3m from the B3032 (for an increase of 7,071 dwellings this would be 0.13kg N/ha/year compared to a critical load of 10kg N/ha/year). However, at this level of increase the total deposition does not exceed the critical load (being 9.82kg N/ha/year compared to a critical load of 10kg N/ha/year). This situation applies to Scenarios 1-3 at least. Under levels of housing that would be delivered through Scenario 3, the rate of deposition at 3m from the A322 and A324 are approaching the minimum critical load, and it is not possible to say that under Scenarios 4-7 that nitrogen deposition would not exceed critical loads more widely. However, in all instances the data suggests that this would only occur immediately adjacent to the roadside with concentrations declining below the critical level at distances of 25m from the roadside. As such, it is unlikely that an adverse effect on the integrity of the SPA would occur. Nonetheless, the local authority should devise transport policies that seek to maximise use of sustainable transport in order to ensure that increases in NO<sub>x</sub> concentration due to road traffic associated with new housing in Guildford borough are minimised.

#### 4.7 Avoidance and Mitigation

In consultation on Local Plans and Core Strategies for surrounding local authorities, Natural England has referred to the following document for mitigation measures that could be included in Local Plan Strategies:

<http://www.westlondonairquality.org.uk/uploads/documents/Best%20Practice%20Guide/WLA%20Best%20Practice%20Air%20Quality%20and%20Transport%20Guide%2020051.pdf>

The report identifies four broad types of mitigation measure:

- Behavioural measures and modal shift - reducing the amount of traffic overall;
- Traffic management - modifying traffic behaviour to control where emissions are generated;
- Emissions reduction at source - reducing the emissions level per vehicle; and
- Roadside barriers - reducing the impact on the public of emissions.

The measures identified in Local Plan Issues and Options cover all of these categories, except for the fourth (roadside barriers) which is not within the remit of local planning policy. The Issues and Options consultation document contain positive measures that should aim to mitigate or avoid the likelihood of significant adverse effects from reduced air quality on the SPA.

For those sustainable transport measures which are available at the strategic planning level, it is not possible to predict in advance the precise quantum of improvement that can be delivered by a given mitigation measure due to both the novel nature of the mitigation tools available and the limitations of the science. Vegetative changes that theory identifies as being likely to result from changes (either negative or positive) in atmospheric nitrogen deposition can fail to appear in practice since they are relatively subtle and can be dwarfed by changes in management regime. Moreover, it is rarely possible to separate the effects of atmospheric

nitrogen deposition and other causes and the effects of atmospheric nitrogen deposition arising from vehicle exhausts from those arising from other sources (e.g. agriculture). For example, a policy to 'require developers to produce travel plans indicating that they have maximised opportunities for sustainable transport' may prove effective in practice, but cannot be predictively linked to a specific scale of improvement of air quality.

It is therefore important that where air quality problems are identified there is also a mechanism established to monitor the effectiveness of the measures adopted (using the critical load/level as a monitoring target against which the success or failure of mitigation measures can be evaluated) and amend them as required.

This is in line with the precautionary principle as set out in EC Guidance<sup>27</sup> on its use:

*'If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human, animal or plant health, which would be inconsistent with the protection normally afforded to these within the European Community, the Precautionary Principle is triggered.*

*Decision-makers then have to determine what action to take. They should take account of the potential consequences of taking no action, the uncertainties inherent in the scientific evaluation, and they should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data.*

*Action is then undertaken to obtain further information enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained so long as the scientific information remains inconclusive and the risk unacceptable'.*

The Council therefore should commit to working with other local authorities, land managers, and strategic highway authorities to develop a framework by which air quality measures can be linked to monitoring of the air quality in the European site before and for a number of years after introduction of the measures, such that further measures<sup>28</sup> can be devised if the air quality does not improve. In making these assessments the critical load for the relevant habitat should be used as the target for assessment.

While not mitigation in itself, monitoring is an essential factor when dealing with an issue such as air quality which has a high degree of uncertainty, since it will enable the effectiveness of air quality improvement measures to be evaluated and amended over the Local Plan period.

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<sup>27</sup> European Commission (2000): Communication from the Commission on the use of the Precautionary Principle.

## CONCLUSIONS

At this stage it has not been possible to screen out all of the Options presented in the Guildford Borough Issues and Options paper, as being unlikely to have significant adverse effects on the Thames Basin Heaths SPA.

There is considerable uncertainty at this stage of the Local Plan development as to the location and quantity of residential and economic development to be delivered. Until greater resolution is provided, at the Preferred Options and subsequent stages of the Local Plan it is not possible to screen out such effects.

However, potential avoidance and mitigation approaches have been considered within Chapter 4 of this report.

With regard to recreational pressure there is capacity for Guildford to deliver Housing Alternatives 1-5 if future SANGS capacity can be confirmed, but precise locations for delivery will need to be considered in relation to distribution and capacity of such SANGS. Alternatives 6-7 could not be delivered even if the maximum SANGS capacity were exploited.

With regard to air quality, growth scenarios lead to potential for air quality reductions on the SPA immediately adjacent to the A322, A324 and B3032. The policy Options presented do allow for reduced reliance on road transport, and measures to improve air quality within the Borough. It is recommended that the Council commit to working in collaboration with neighbouring authorities and relevant stakeholders, specifically to monitor air quality on the Thames Basin Heaths SPA at relevant locations.

### 5.1

#### Next steps

The Council should, in preparation of the next stage of the Local Plan:

- Not take forward housing alternatives 6-7 unless further SANG in addition to the 207 ha potentially identified at Broadstreet & Backside Commons, Stringer's Common and Tongham Pools and Tyting Farm comes forward.
- Continue to seek confirmation of 207ha of potential SANGS capacity in order to be able to deliver alternatives 1-5.
- Commit to working with partners to deliver air quality monitoring on the Thames Basin Heaths SPA
- Develop policy wording that will enable policies on rail transport and on waste to be screened out with regard to air quality effects on the SPA
- Develop policy wording that will enable policy on green belt release be screened out with regard to recreational pressure effects on the SPA

**APPENDIX 1 – SCREENING TABLES FOR CORE STRATEGY ISSUES AND OPTIONS**

Issue	Options	Screening Decision
Housing allocation	As detailed in the HRA report (Chapter 4).	Dependent on location, any residential development within Guildford Borough could lead to likely significant effects on the Thames Basin Heaths SPA through both recreational pressure and reduced air quality. The housing scenarios are considered in further detail in Chapter 4 of this report.
Housing mix and density	<p>Set a specific mix and density of homes for the different areas within the borough.</p> <p>Seek lower or similar densities than now and so use more land to deliver the development needed.</p> <p>Seek higher densities and use less land.</p> <p>Take a more flexible approach and assess each site on a case by case basis having regard to the character of the surrounding area and the sustainability of the location.</p>	These Options do not have implications for HRA, since they define density and character of housing rather than distribution, which is considered under other Options.
Affordable housing	<p>Site size threshold for providing affordable homes:</p> <ul style="list-style-type: none"> <li>- Reduce the threshold for the provision of affordable homes as part of a development scheme to five homes (gross).</li> <li>- Have no policy threshold, so all new housing developments would contribute.</li> <li>- Where on site provision is impractical, a financial contribution could be taken instead to allow provision of affordable homes elsewhere in the borough.</li> </ul>	No HRA implications.as the proportion of affordable housing wouldn't affect potential impacts on the Thames Basin Heaths SPA

Issue	Options	Screening Decision
	<p>The proportion of affordable homes to provide in qualifying developments:</p> <ul style="list-style-type: none"> <li>- Increase the proportion of homes that are required by developers to provide as affordable housing to 40 per cent.</li> </ul> <p>Which developments should contribute to providing affordable homes:</p> <ul style="list-style-type: none"> <li>- In addition to market housing developments, developments of other types of housing such as off-campus purpose-built student housing and care homes could be required to provide a proportion of affordable homes.</li> </ul> <p>Rural exception housing schemes:</p> <ul style="list-style-type: none"> <li>- Introduce greater flexibility in the size and location of rural exception sites making sure that rural exception housing schemes relate well in size to the nearest community</li> <li>- Include in a policy on rural exception housing wording relating to the price paid for land for rural exception housing relative to the value of agricultural land for market housing development.</li> <li>- Allow for limited market housing to be provided on rural exception sites provided that the overall amount of affordable housing provided is increased.</li> </ul>	
<p>Homes for travellers</p>	<p>Provide pitches/plots within towns and villages where sites are suitable, available and viable (these are the Government’s preferred location for new housing).</p> <p>Provide rural exception sites for affordable accommodation for travellers in the Green Belt as an exception to Green Belt policy.</p> <p>Provide sites on land classed as Countryside beyond the green belt.</p> <p>Provide pitches/plots on previously developed land in the countryside (including in the Green Belt).</p>	<p>There are unlikely to be significant effects on the Thames Basin Heaths SPA from these Options, since:</p> <ul style="list-style-type: none"> <li>• The scale of provision will be very limited. The provision of pitches would be in accordance with the Thames Basin</li> </ul>

Issue	Options	Screening Decision
	<p>Where suitable, make permanent the existing temporary planning permissions for pitches/plots.</p> <p>Encourage small-scale private pitches in the countryside (including in the Green Belt).</p> <p>Provide new sites (primarily public pitches) in the countryside (including in Green Belt)</p> <p>Set a site size threshold and a proportion of traveller pitches/plots for large housing developments (in addition to other requirements).</p>	<p>Heaths Avoidance Strategy</p> <ul style="list-style-type: none"> <li>• Pitch provision generally reflects the need to provide safe appropriately serviced official pitches to replace existing unofficial pitches rather than to deliver a net increase in the traveller population</li> <li>• Travellers are unlikely to place the same demands on the SPA as other development and are unlikely to be contributing to significant regular traffic volumes past the site.</li> </ul>
Lifetime homes	<p>Plan for more Lifetime Homes, suitable for disabled residents and capable of being adapted to meet the needs of residents as their life needs change over time</p> <p>Encourage the development of more retirement homes and specialist homes that help people to live independently, but have facilities or support available when they need them.</p>	The type of housing provided does not have implications for HRA.
Student housing	<p>Plan for new purpose built student accommodation or flats either on or off relevant campuses.</p> <p>Support appropriately designed new build or building conversions to houses in multiple occupations with the flexibility to meet the housing needs of student's needs, single workers or young adults.</p>	The type of housing provided does not have implications for HRA.
Tourist, arts and cultural facilities	Develop a cultural strategy that helps to define and promote culture/cultural facilities.	No HRA implications.

Issue	Options	Screening Decision
	<p>Direct development of new facilities towards those areas where there is a lack of provision.</p> <p>Direct new development towards those areas where most people live Promote eco tourism as a direction for the borough.</p> <p>Promote the borough as a location for films and develop tourist facilities to support this.</p>	
<p>Industrial and office space</p>	<p>Provide enough employment land only to meet the expected employment needs of residents.</p> <p>Provide enough employment land to meet the needs of residents and commuters.</p> <p>Provide extra employment land to meet the expected demand from a growth in business activity.</p> <p>Provide for additional employment land as a priority, to pursue high levels of growth.</p> <p>Need for larger units:</p> <ul style="list-style-type: none"> <li>- Meet the need for higher quality space by planning for the refurbishment of existing office and industrial floor space.</li> <li>- Meet the need for higher quality space and larger units through expanding existing business parks to provide new, high quality offices and industrial space.</li> <li>- Meet the need for higher quality space and larger units by planning to provide new, high quality offices and industrial space as part of any urban extension.</li> <li>- Meet the need for higher quality space and larger units by creating new high quality industrial and office space outside of the urban areas, potentially opening a new business park in the countryside.</li> </ul>	<p>Dependent on location, new employment sites could have implications for the Thames Basin Heaths SPA through reduced air quality, if the sites were to be located such that increased commuting or freight would occur on routes that pass within 200m of the SPA.</p>
<p>Employment floor space location</p>	<p>Protect key employment sites.</p> <p>Redevelop and intensify the use of existing sites.</p>	<p>Development in rural areas for employment purposes could lead to effects on the Thames Basin Heaths SPA,</p>

Issue	Options	Screening Decision
	<p>New employment throughout the borough.</p> <p>New sites in rural areas that re-use rural buildings for employment uses.</p>	<p>dependent on location, through reduced air quality from associated transport movements.</p>
Rural economy	<p>Support economic growth in rural areas.</p> <p>Balance protecting agricultural land and supporting economic growth.</p> <p>Encourage tourism related development in the rural areas to support the rural economy.</p>	<p>Development in rural areas for economic purposes could lead to effects on the Thames Basin Heaths SPA, dependent on location, through reduced air quality from associated transport movements.</p>
Local centres, district shopping centres, and Guildford town centre	<p>Retain the current hierarchy of town, district and local centres with the exception of upgrading Ripley from a local to a district centre.</p> <p>Redefine Guildford town centre's boundary.</p>	<p>No HRA implications</p>
Development growth, traffic and congestion	<p>Focus new development that will generate significant movement in locations where the need to travel will be minimised and the use of sustainable transport modes can be maximised, including locations which can be made highly accessible by passenger transport (including by park and ride services) and are served by cycle and pedestrian routes.</p> <p>Expect all developments which generate significant amounts of movement to provide a long-term travel plan, identifying the movements the development will generate and how these would be managed to deliver sustainable transport outcomes.</p> <p>Continue to identify and bring forward further park and ride facilities, particularly along the northern and eastern approaches to Guildford town.</p>	<p>The measures proposed should all assist in reducing car movements within the borough, thus reducing atmospheric pollutants, and potential helping to improve air quality at the Thames Basin Heaths SPA.</p>

Issue	Options	Screening Decision
	<p>Require new developments to make use of or contribute financially towards improvements to passenger transport services (including park and ride services) and improved access for cyclists and pedestrians.</p> <p>Set aside more road space on the main approaches into Guildford town centre to improve routes for pedestrians, cyclists and buses.</p> <p>Impact of high volumes of traffic on our communities:</p> <ul style="list-style-type: none"> <li>- Explore opportunities to improve connections within Guildford town centre, between the town centre and the wider town, including to neighbourhoods and destinations to the north and west of the A3 corridor.</li> </ul> <p>Alternative ways of moving around the borough:</p> <ul style="list-style-type: none"> <li>- Improve people’s experience of catching buses into and from Guildford town centre.</li> <li>- Improve people’s experience of changing between bus and train services in Guildford town centre.</li> <li>- Provide new places for people to access rail services.</li> <li>- Use opportunities through the design of new developments and the negotiation of planning contributions to improve cycling and walking routes in town, villages, hamlets and rural areas.</li> <li>- Use opportunities through the design of new developments and the negotiation of planning contributions to improve bus and community transport services, in town, villages, hamlets and rural areas.</li> </ul>	
Infrastructure and	Work with infrastructure providers to ensure that they plan for necessary infrastructure, taking into account the proposed amount and locations of development to be planned across the borough to 2031, to make	The importance of provision

Issue	Options	Screening Decision
services	sure this is committed and will be in place when it is needed.	of adequate infrastructure in advance of occupation of development has been recognised within this Option. No HRA implications.
Green open space and habitats	<p>Ensure that all development proposals identify positive measures to protect and improve biodiversity.</p> <p>Make more of the beauty and biodiversity of waterways (such as the River Wey, the Basingstoke Canal).</p> <p>Subject to the findings of our green open spaces research, and to viability and land constraints:</p> <ul style="list-style-type: none"> <li>- Expect new development to provide additional open space or to improve existing spaces, or an equivalent financial contribution where it is not practical to provide that as part of the development, of a scale taking into account the development's needs and current local provision.</li> <li>- Expect new development to contribute to the borough's network of green open spaces and links between these.</li> <li>- Take a flexible approach to the loss of open space that is assessed as poor quality, where there is a surplus of open space.</li> </ul> <p>Require developers of large developments (of 300 homes or more) to provide their own Suitable Alternative Natural Green space (SANG).</p> <p>Continue to work to deliver the expanded and new SANG sites set out in the Council's Thames Basin Heaths SPA Strategy.</p>	No HRA implications from any of the options. Provision of SANG is a positive measure in terms of ensuring favourable conservation status of the Thames Basin Heaths SPA.

Issue	Options	Screening Decision
	<p>Identify further new SANG in suitable locations - this might necessitate the Council purchasing land or negotiating with land owners to make their land available for SANG, preferably at tariffs consistent with those in the Council's SPA Strategy.</p>	
<p>Built environments</p>	<p>Identify locations in the borough, which have strong local distinctiveness and require new developments to conform to that local style, whilst allowing more innovative design in all other areas.</p> <p>Encourage high quality innovative and contemporary design where appropriate.</p> <p>Identify key views or skylines and require new development to safeguard these.</p> <p>Identify opportunities to improve connections within and beyond the town centre, including links to the River Wey, the University of Surrey and railway station.</p> <p>Plan for improvements to existing, and provision of new, well-designed public spaces in Guildford town centre, in Ash and Tongham, in villages and other strategic growth schemes as part of any major new development.</p>	<p>None of these options have adverse effects on the Thames Basin Heaths SPA.</p>
<p>Climate change</p>	<p>TBC</p>	<p>TBC</p>

Issue	Options		Screening Decision
Settlement hierarchy	Category	Settlement	In itself, the assignation of a settlement hierarchy does not create implications for HRA.
	1 Urban area	Guildford urban area Ash and Tongham urban area	
	2 Semi-urban village	East Horsley	
	3 Large village	Normandy and Flexford Fairlands Pirbright Wood Street Village Ripley Send Send Marsh/ Burnt Common Shalford Chilworth	
	4 Medium Village	West Horsley (north and south) Worplesdon Effingham Jacobs Well	
	5 Small village	Peasmarsh Shere Peaslake Compton West Clandon (North and South) Puttenham Albury Ash Green	

Issue	Options		Screening Decision
	<p>6 Hamlets</p> <p>East Clandon Ockham Seal and The Sands Holmbury St Mary Wanborough Shackleford Wisley Wyke Eashing Farley Green Hurtmore Littleton/Artington Fox Corner</p> <p>Use the settlement hierarchy above to judge the appropriateness of developments.</p> <p>Use a different settlement hierarchy to judge the appropriateness of developments.</p>		
Green Belt	<p><b>Villages that should remain in the Green Belt</b></p> <p>Albury Compton Holmbury St Mary Peaslake Pirbright Puttenham West Clandon (North and South) Worplesdon</p>	<p><b>Villages that should not remain in the Green Belt</b></p> <p>Chilworth East Horsley and West Horsley (North) Effingham Fairlands Flexford Gomshall Jacobswell Normandy Peasmarsh Ripley Send Send Marsh and Burnt Common Shalford</p>	<p>Increased access to the countryside needs to be managed in a way that does not lead to increased recreational pressures on the Thames Basin Heaths.</p> <p>Release and designation of Green Belt land in itself does not have HRA implications, however, a strategic approach to support the integrity of the Thames</p>

Issue	Options	Screening Decision										
	<table border="1"> <tr> <td data-bbox="450 309 1070 405"></td> <td data-bbox="1070 309 1715 405">Shere West Horsley (South) Wood Street Village</td> </tr> <tr> <td colspan="2" data-bbox="450 405 1715 496">Ash Green:</td> </tr> <tr> <th data-bbox="450 496 1070 528">Area</th> <th data-bbox="1070 496 1715 528">Further information</th> </tr> <tr> <td data-bbox="450 528 1070 624">Include Ash Green within the urban area</td> <td data-bbox="1070 528 1715 624">Ash Green would be linked to the urban area by land identified in research (GBCS potential development areas K9, K8 and K6 north)</td> </tr> <tr> <td data-bbox="450 624 1070 719">Keep Ash Green as a village with a boundary and allow small-scale development.</td> <td data-bbox="1070 624 1715 719">We could only achieve this if land identified in research is not developed (GBCS potential development areas K9, K8 and K5)</td> </tr> </table>		Shere West Horsley (South) Wood Street Village	Ash Green:		Area	Further information	Include Ash Green within the urban area	Ash Green would be linked to the urban area by land identified in research (GBCS potential development areas K9, K8 and K6 north)	Keep Ash Green as a village with a boundary and allow small-scale development.	We could only achieve this if land identified in research is not developed (GBCS potential development areas K9, K8 and K5)	<p>Basin Heaths management strategy would be beneficial.</p>
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Keep Ash Green as a village with a boundary and allow small-scale development.	We could only achieve this if land identified in research is not developed (GBCS potential development areas K9, K8 and K5)											
<p>Accommodating development</p>	<p>Redevelop appropriate buildings and spaces in our towns and villages:</p> <ul style="list-style-type: none"> <li>- Convert existing buildings and provide new buildings within the existing urban areas of Guildford, Ash and Tongham, and within the existing boundaries of villages, to provide new homes and other buildings. These kinds of sites are often, but not always, land that has been developed before (previously developed land).</li> <li>- In-depth research shows that continued development in these areas could provide a further 3302 homes in the years 2015-2031.</li> </ul> <p>Use land on the edge of villages to provide affordable housing for local need:</p> <ul style="list-style-type: none"> <li>- This option involves building new affordable homes on land outside, of but closely related to the existing boundaries of villages, to provide affordable homes. These are known as rural exception housing schemes as they are allowed as exceptions to the normal planning policies that discourage new homes being built in the countryside. Opportunities for schemes like this are sometimes suggested by local communities after a survey has identified housing need in their parish. Rural exception sites of this kind cannot be permitted around the urban areas of Guildford, and Ash and Tongham.</li> </ul>	<p>Given the proximity of the Thames Basin Heaths SPA to existing settlements within Guildford, there is potential for new development at most locations within the borough to lead to likely significant effects unless mitigated. Therefore any distribution of new development is screened in for further assessment.</p> <p>Development specifically in rural areas could lead to effects on the Thames Basin Heaths SPA, dependent on location, through reduced air</p>										

Issue	Options	Screening Decision
	<p>Reuse previously developed land in the countryside:</p> <ul style="list-style-type: none"> <li>- There are a number of pieces of land like this in the countryside that have potential for appropriate redevelopment to help to meet future development needs.</li> </ul> <p>Use countryside land in the west of the borough:</p> <ul style="list-style-type: none"> <li>- Extending the existing urban area of Ash and Tongham into the countryside to provide future development to help to meet housing, employment and infrastructure needs.</li> <li>- Extending an existing built up area to provide new neighbourhood(s) is another way to provide new development that is within reach of existing transport links, shops, schools and health care, as well as bringing new or improved services and facilities as part of the development that may also benefit surrounding existing residents.</li> </ul> <p>Use countryside in the centre of the borough by extending Guildford town’s boundaries:</p> <ul style="list-style-type: none"> <li>- Potential to extend the existing urban area of Guildford into the Green Belt to provide new neighbourhood(s) to meet some of the development that the borough needs in the future.</li> <li>- Development in locations like this could integrate well with the existing good facilities and services in Guildford town, whilst providing new infrastructure in line with the extra needs generated by the development(s) itself, and which may also benefit surrounding existing residents.</li> <li>- Carry out a review of the Green Belt.</li> </ul> <p>Use countryside to expand around villages:</p> <ul style="list-style-type: none"> <li>- Expand villages by developing some of the countryside that adjoins their existing boundaries. Providing new homes and business space can help to support the rural economy including local services within a community.</li> </ul>	<p>quality from associated transport movements and increased recreational pressure.</p>

Issue	Options	Screening Decision																						
	<p>Significantly expand an existing village:</p> <ul style="list-style-type: none"> <li>- Significantly expand a village that has good rail links and services.</li> </ul> <p>Create a new village:</p> <ul style="list-style-type: none"> <li>- Planning and building a new settlement with homes, employment, and supporting infrastructure. Like extensions to towns, this type of growth requires a development scale designed to provide facilities and services to support itself. However, as a stand alone settlement such a village should be even more self-contained to ensure it would not become a dormitory area from which residents have to commute out to reach work, shops and for leisure.</li> </ul>																							
<p>Guildford town centre</p>	<table border="1" data-bbox="461 711 1695 1155"> <thead> <tr> <th data-bbox="461 711 1010 743">Location</th> <th data-bbox="1010 711 1695 743">Possible uses</th> </tr> </thead> <tbody> <tr> <td data-bbox="461 743 1010 804">North Street regeneration site</td> <td data-bbox="1010 743 1695 804">Primarily new shops and other uses, public space</td> </tr> <tr> <td data-bbox="461 804 1010 865">Portsmouth Road surface car park</td> <td data-bbox="1010 804 1695 865">Cafés and restaurants, with gym and offices</td> </tr> <tr> <td data-bbox="461 865 1010 896">1 and 2 Station View</td> <td data-bbox="1010 865 1695 896">Offices and/or new homes</td> </tr> <tr> <td data-bbox="461 896 1010 928">The Plaza, Portsmouth Road</td> <td data-bbox="1010 896 1695 928">Offices and/or new homes</td> </tr> <tr> <td data-bbox="461 928 1010 989">Land and buildings at Guildford Railway Station</td> <td data-bbox="1010 928 1695 989">A mix of uses including new homes, offices, restaurants and cafes and hotel, public space</td> </tr> <tr> <td data-bbox="461 989 1010 1021">Bedford Road surface car park</td> <td data-bbox="1010 989 1695 1021">Houses and/or offices</td> </tr> <tr> <td data-bbox="461 1021 1010 1053">Bright Hill car park</td> <td data-bbox="1010 1021 1695 1053">Offices and/or new homes</td> </tr> <tr> <td data-bbox="461 1053 1010 1085">Guildford Park car park</td> <td data-bbox="1010 1053 1695 1085">New homes, with other uses and parking</td> </tr> <tr> <td data-bbox="461 1085 1010 1117">Buildings at Chertsey Street</td> <td data-bbox="1010 1085 1695 1117">Offices and new homes</td> </tr> <tr> <td data-bbox="461 1117 1010 1149">Jewsons, Walnut Tree Close</td> <td data-bbox="1010 1117 1695 1149">Houses and/or offices</td> </tr> </tbody> </table>	Location	Possible uses	North Street regeneration site	Primarily new shops and other uses, public space	Portsmouth Road surface car park	Cafés and restaurants, with gym and offices	1 and 2 Station View	Offices and/or new homes	The Plaza, Portsmouth Road	Offices and/or new homes	Land and buildings at Guildford Railway Station	A mix of uses including new homes, offices, restaurants and cafes and hotel, public space	Bedford Road surface car park	Houses and/or offices	Bright Hill car park	Offices and/or new homes	Guildford Park car park	New homes, with other uses and parking	Buildings at Chertsey Street	Offices and new homes	Jewsons, Walnut Tree Close	Houses and/or offices	<p>Although development within Guildford per se is unlikely to lead to effects on the Thames Basin Heaths SPA, any development that leads to increased traffic volumes, in particular on the A320 that runs in from the north, could lead to reduction in air quality at the SPA.</p> <p>However, transport modelling as presented in Chapter 4 indicates that it is unlikely that this scale of development would lead to a significant reduction in air quality on the SPA where the A320 passes close to it.</p>
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Issue	Options		Screening Decision
Guildford urban area	<b>Location</b>	<b>Possible uses</b>	<p>Although development within Guildford per se is unlikely to lead to effects on the Thames Basin Heaths SPA, any development that leads to increased traffic volumes, in particular on the A320 that runs in from the north, could lead to reduction in air quality at the SPA.</p> <p>Transport modelling as presented in Chapter 4 indicates that it is unlikely that this scale of development would lead to a significant reduction in air quality on the SPA where the A320 passes close to it.</p>
	Midleton Industrial Estate (excluding Lexicon House), Onslow	Offices	
	Cathedral Hill Industrial Estate, Onslow	tbc	
	Land at Guildford Cathedral	New homes	
	Land at Walnut Tree Close (Including Wey Corner)	New homes and offices	
	Merrow depot, Merrow Lane, Merrow	New homes or industrial uses and warehouses	
	Guildford Fire Station	A new fire station, affordable housing and new homes or a care home	
	Former Pond Meadow School	New homes and affordable housing or a care home, or student accommodation or a community use	
Guildford College, Stoke Road	Education facilities		
Slyfield area regeneration	TBC		TBC
Ash and Tongham urban area	<b>Location of land</b>	<b>Possible uses</b>	<p>Although development within the established urban areas of Ash and Tongham per se is unlikely to lead to effects on the Thames Basin Heaths SPA, any development that leads to increased traffic volumes could lead to reduction in air quality at the</p>
	Lysons Avenue/Station Road East/West, Ash Vale	Offices, industrial buildings and warehouses	
	Enterprise Industrial Estate, Station Road West, Ash Vale	Improved starter units for new businesses	

Issue	Options		Screening Decision				
			<p>SPA.</p> <p>However, transport modelling as presented in Chapter 4 indicates that it is unlikely that this scale of development would lead to a significant reduction in air quality on the SPA.</p>				
Villages	<table border="1"> <thead> <tr> <th data-bbox="450 616 1016 651">Location</th> <th data-bbox="1016 616 1697 651">Possible uses</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 651 1016 708">Ramada Hotel, Guildford Road</td> <td data-bbox="1016 651 1697 708">New homes or a care home</td> </tr> </tbody> </table>	Location	Possible uses	Ramada Hotel, Guildford Road	New homes or a care home		<p>Although development within existing villages per se is unlikely to lead to effects on the Thames Basin Heaths SPA, any development that leads to increased traffic volumes could lead to reduction in air quality at the SPA.</p> <p>However, transport modelling as presented in Chapter 4 indicates that it is unlikely that this scale of development would lead to a significant reduction in air quality on the SPA.</p>
Location	Possible uses						
Ramada Hotel, Guildford Road	New homes or a care home						
Using developed land in the countryside	<table border="1"> <thead> <tr> <th data-bbox="450 1171 1016 1206">Location</th> <th data-bbox="1016 1171 1697 1206">Possible uses</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 1206 1016 1302">Mount Browne (Surrey Police Head Quarters), Sandy Lane, Guildford</td> <td data-bbox="1016 1206 1697 1302">Redevelop to provide new homes, and/or a care home and/or student accommodation (maintaining the same</td> </tr> </tbody> </table>	Location	Possible uses	Mount Browne (Surrey Police Head Quarters), Sandy Lane, Guildford	Redevelop to provide new homes, and/or a care home and/or student accommodation (maintaining the same		<p>Development in rural areas could lead to effects on the Thames Basin Heaths SPA, through reduced air quality</p>
Location	Possible uses						
Mount Browne (Surrey Police Head Quarters), Sandy Lane, Guildford	Redevelop to provide new homes, and/or a care home and/or student accommodation (maintaining the same						

Issue	Options		Screening Decision
		overall amount of development as existing)	from associated transport movements and increased recreational pressure.
	Land around Merrist Wood college, near Worplesdon	More education facilities and uses that support it	
	RHS Wisley, Wisley	More development to support the current use (but not new homes)	
	Bisley Camp, Bisley, Brookwood	More development to support the current use (but not new homes)	
Land around Ash and Tongham (including countryside land)	<b>Location</b>	<b>Possible uses</b>	Development around the areas of Ash and Tongham, which are located to the south of the Thames Basin Heaths SPA, have the potential to lead to effects on the SPA, through reduced air quality from associated transport movements and increased recreational pressure.
	Land at Grange Farm, Grange Road, Tongham (bounded by A331/A31)	New homes or retirement/care homes and/or offices or industrial and warehouses	
	Land at Kingston House, Poyle Road, Tongham	New homes	
	Land to the east of White Lane, Ash Green	New homes	
	Land to the south of Hazel Road, Ash Green	New homes	
	Land south of Ash Lodge Drive, Ash	New homes	
	Land near The Briars, South Lane and Grange Road, Ash	New homes	
	Land to the south and east of Guildford Road, Ash	New homes	
Land to the north west of Ash Green Road	New homes		
New Green Belt land	Research (GBCS) has identified two areas:  - Land to the east of Manor Farm (GBCS, land parcel K3), and - Land around Poyle Farm (GBCS, part of land parcel K5)		Release and designation of Green Belt land in itself does not have HRA implications; however, a strategic approach to support the integrity of the Thames Basin Heaths management

Issue	Options	Screening Decision										
	<p>As part of a current planning application, (land south of Ash Lodge Drive, Ash) land around Poyle Farm is proposed for SPA related green space (Suitable Accessible Natural Green space). If this happens, it will keep a space between Tongham and Ash Green.</p> <p>Choices about how to use this land in the future:</p> <p>Land around Poyle Farm (GBCS, land parcel K5)</p> <ul style="list-style-type: none"> <li>- Choice 1 – make the land not identified by research (GBCS) as a potential development area, Green Belt.</li> <li>- Choice 2 – do not make the land Green Belt, but reconsider it in a future Local Plan.</li> <li>- Choice 3 – develop the whole of this area.</li> </ul> <p>Land to the east of Manor Farm (GBCS, land parcel K3)</p> <ul style="list-style-type: none"> <li>- Choice 1 – make this Green Belt.</li> <li>- Choice 2 - do not make the land Green Belt, but reconsider it in a future Local Plan.</li> <li>- Choice 3 - carry out further research to see if there may be some small potential development areas within this area.</li> <li>- Choice 4 - develop this land (apart from the area that is AONB).</li> </ul>	<p>strategy would be beneficial.</p>										
<p>Land surrounding Guildford urban area</p>	<table border="1"> <thead> <tr> <th data-bbox="450 836 999 876">Location</th> <th data-bbox="999 836 1697 876">Possible uses</th> </tr> </thead> <tbody> <tr> <td data-bbox="450 876 999 970"> <p>Land to the north east of Guildford - this is land at Gosden Hill Farm, Merrow Lane</p> </td> <td data-bbox="999 876 1697 970"> <p>Primarily new homes, with other uses including retirement/care homes, offices, supermarket, food and drink, leisure and community uses</p> </td> </tr> <tr> <td data-bbox="450 970 999 1064"> <p>Land to the south west of Guildford - this is land at Blackwell Farm, Hogs Back</p> </td> <td data-bbox="999 970 1697 1064"> <p>Primarily new homes, with other uses including retirement/care homes, offices, supermarket, food and drink, leisure and community uses</p> </td> </tr> <tr> <td data-bbox="450 1064 999 1198"> <p>Land at Gunners Farm and Bullens Hill Farm – this is land to the west of Jacobs Well and south of Salt Box Road</p> </td> <td data-bbox="999 1064 1697 1198"> <p>Industrial uses and warehouses</p> </td> </tr> <tr> <td data-bbox="450 1198 999 1289"> <p>Land north of Salt Box Road and west of the railway line, Whitmoor Common – north of Salt Box Road</p> </td> <td data-bbox="999 1198 1697 1289"> <p>Industrial uses</p> </td> </tr> </tbody> </table>	Location	Possible uses	<p>Land to the north east of Guildford - this is land at Gosden Hill Farm, Merrow Lane</p>	<p>Primarily new homes, with other uses including retirement/care homes, offices, supermarket, food and drink, leisure and community uses</p>	<p>Land to the south west of Guildford - this is land at Blackwell Farm, Hogs Back</p>	<p>Primarily new homes, with other uses including retirement/care homes, offices, supermarket, food and drink, leisure and community uses</p>	<p>Land at Gunners Farm and Bullens Hill Farm – this is land to the west of Jacobs Well and south of Salt Box Road</p>	<p>Industrial uses and warehouses</p>	<p>Land north of Salt Box Road and west of the railway line, Whitmoor Common – north of Salt Box Road</p>	<p>Industrial uses</p>	<p>Development in rural areas surrounding Guildford could lead to effects on the Thames Basin Heaths SPA, through reduced air quality from associated transport movements and increased recreational pressure.</p>
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Issue	Options		Screening Decision
Land surrounding villages	Location	Possible uses	Development in rural areas surrounding villages could lead to effects on the Thames Basin Heaths SPA, through reduced air quality from associated transport movements and increased recreational pressure.
	Land to the north of West Horsley	New homes	
	Land to the west of West Horsley	New homes	
	Land adjoining Tannery Lane, Send	New homes	
	Land to the west and south west of Fairlands	New homes and offices with shops, food and drink, leisure and/or community uses	
	Land to the west of Normandy, west of Westwood lane	New homes	
	Land to the west of Normandy, east of Westwood lane	New homes	
	Land to the south east of Hunts Hill Farm, Normandy	New homes	
	Land near Anchor Copse, Normandy	New homes	
	Land to the north of Flexford	New homes	
	Land to the east of Flexford	New homes	
	Land to the west of Flexford	New homes	
	Land to the west of Ripley	New homes	
	Land to the west of Chilworth, adjoining New Road	New homes	
	Land to the east of Chilworth, adjoining Dorking Road	New homes	
Land to the east of Shalford, adjoining Chinthurst Lane	New homes		
Land to the west of West Horsley, west of Silkmore Lane and east of Ripley Lane	New homes		

Issue	Options		Screening Decision
	Land to the east of Shere Road, West Horsley	New homes	
	Land to the north of Send Marsh	New homes	
	Land to the north east of Send Marsh	New homes	
	Land north of the centre of Send Marsh	New homes	
	Land around Burnt Common warehouse, London Road, Send	Industrial uses or warehouses	
	Extension of Peasmarsh industrial estate, Old Portsmouth Road	Industrial uses or warehouses	
Significant expansion of existing villages	<p>Land between Flexford and Normandy is approximately 232 hectares in size. Expansion here could possibly provide 2700 new homes, along with other uses.</p> <p>Land to the west of Send and Send Marsh is approximately 190 hectares in size. Expansion here could possibly provide 2220 new homes, along with other uses.</p>		Development of existing villages could lead to effects on the Thames Basin Heaths SPA, through reduced air quality from associated transport movements and increased recreational pressure.
A new settlement	<p>One possible area is at land around the former Wisley airfield, near Ockham. This is towards the north east of the borough.</p> <p>A new settlement here would be approximately 167 hectares in size. This new settlement could provide 2175 new homes along with other uses.</p>		Development of a new settlement could lead to effects on the Thames Basin Heaths SPA, through reduced air quality from associated transport movements and increased recreational pressure.
Traveller and travelling show people sites	Options not yet available		TBC
Land for park and ride	Possible locations in Worplesdon area:		Extending park and ride

Issue	Options		Screening Decision
services	<ul style="list-style-type: none"> <li>- Land at Worplesdon Road, north of Tangley Place.</li> <li>- Land at Tangley Place Farm.</li> <li>- Land at Keens Lane.</li> <li>- Land at Saltbox Road.</li> <li>- Land at Liddington Hall, Aldershot Road.</li> </ul>		facilities should assist in reducing car movements within the borough, thus reducing atmospheric pollutants, and potentially helping to improve air quality at the Thames Basin Heaths SPA.
Suitable Alternative Natural Green Space (SANG)	<p>Developments of ten or more homes must be within five kilometres of a functioning SANG (can assign developments of less than ten homes to any SANG in the borough).</p> <p>Additional land to designate as SANG to be confirmed.</p>		Provision of SANG is a positive measure in terms of ensuring favourable conservation status of the Thames Basin Heaths SPA.
Land for burials and cremations	<b>Location</b>	<b>Further information</b>	No HRA implications.
	Land north of Guildford	This land is identified as a potential development area by research (GBCS land parcel J3). It is not known if the landowner would consider this use of their land.	
	Land to the east of Tongham, near to Aldershot crematoria	Research (GBCS) records this land is within land parcel K3. It is not known if the landowner would consider this use of their land.	
Large scale developments on the edge of Guildford	When planning large new developments, it will be considered whether burial ground is suitable as part of a mixed-use development.		
Allotments	<b>Area</b>	<b>Further information</b>	No HRA implications.
	Land at Westborough allotments, Guildford (Woodside Road)	There is land next to the current allotments that has been identified for affordable homes and open space (by the Local Plan 2003). It is no longer likely that new homes will be provided on this site, and it would be better used for additional allotment land.	

Issue	Options	Screening Decision						
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Large scale developments	Can ask for new allotments to be provided on land that is identified for large-scale future development.							
Open space	Options not yet available	Unlikely to be any HRA implications						

