


Dacorum Core Strategy Habitats Regulations Assessment: Summary Report

Document: 0 Version: 1

Dacorum Core Strategy HRA Update Summary
Report

Dacorum Borough Council

September 2011





Dacorum Core Strategy Habitats Regulations Assessment: Summary Report

Dacorum Core Strategy HRA Update Summary
Report

Dacorum Borough Council

September 2011

Halcrow Group Limited
Burderop Park, Swindon, Wiltshire SN4 0QD
tel 01793 812479 fax 01793 812089
halcrow.com

Halcrow Group Limited has prepared this report in accordance with the instructions of client Dacorum Borough Council for the client's sole and specific use. Any other persons who use any information contained herein do so at their own risk.

© Halcrow Group Limited 2011



Document history

Dacorum HRA Summary Report

Dacorum Borough Council

This document has been issued and amended as follows:

Version	Date	Description	Created by	Verified by	Approved by
v.0.1	12/09/2011	First draft report	S J Isaac (Halcrow)	C Morgan (Halcrow)	R Gardner (TRL)

Contents

Executive Summary	i
1.1 Introduction	i
1.2 Summary of Assessment	i
1.2.1 Air pollution	ii
1.2.2 Recreation disturbance	ii
1.3 Consultation and future HRA requirements	ii
1.3.1 Consultation with Natural England	ii
1.3.2 The requirement for future HRA	ii
1 Introduction	1
1.1 Project background	1
1.2 Habitats Regulations Assessment	1
1.3 Relevant Natura 2000 Sites	2
1.4 HRA Methodology	2
2 Dacorum Core Strategy	3
2.1 Development Options	3
2.2 Elements of the Core Strategy 'screened out' of the HRA	7
3 Assessment Results	8
3.1 Core Strategy Policies and Development Sites	8
3.2 Commentary on Assessment	12
3.3 Assessment of Air Pollution Impacts	12
3.4 Assessment of recreation disturbance impacts	13
4 In-combination Effects	15
4.1 Summary of in-combination effects	15
5 Precautionary Avoidance and Mitigation Measures	16
5.1 Introduction	16
5.2 Air Pollution	16
5.3 Recreation	17
6 Conclusions	21
6.1 Final Assessment	21
6.1.1 Summary	21
6.1.2 Air pollution	21
6.1.3 Recreation disturbance	21
6.1.4 Consultation with Natural England	21

6.2	Next Steps	22
6.2.1	The requirement for future HRA	22

Appendices

- Appendix A** Key to Natural England Guidance Assessment Categories
- Appendix B** Natural England Consultation Comments
- Appendix C** Map

Executive Summary

1.1 Introduction

A Habitats Regulations Assessment (HRA) under the UK's Habitats Regulations, of Dacorum's Core Strategy Issues and Options was undertaken by Halcrow in 2008. The HRA assessed the following documents produced by Dacorum Borough Council (DBC) for their potential impacts on European sites of nature conservation interest (also known as Natura 2000 sites):

- Core Strategy Issues and Options Paper, May 2006
- Core Strategies (Dacorum Borough and St Albans City and District Councils) Supplementary Issues and Options paper: Growth at Hemel Hempstead, November 2006
- Dacorum's Site Allocations Issues and Options, November 2006
- Dacorum's Schedule of Site Appraisals, November 2006

The HRA was produced in close consultation with Natural England, the statutory consultee for HRAs in England. The 2008 HRA should be read in conjunction with this report.

Since 2008, the Core Strategy has been updated significantly and is now at Pre-submission Stage. Due to the changes made to the Core Strategy, Dacorum Borough Council subsequently commissioned Halcrow, in August 2011, to revisit the 2008 HRA and ascertain whether its assessment and conclusions still stand or need to be updated. This HRA is based on the 2011 Pre-Submission version of the Core Strategy and now utilises 2009 guidance on HRA produced by Natural England, which was unavailable during the previous assessment.

Consultation with Natural England in 2007 confirmed that only one Natura 2000 site was relevant to the screening process for Dacorum Core Strategy; Chilterns Beechwoods Special Area of Conservation (SAC). The assessment therefore only relates to possible effects on this SAC. A 3km 'buffer zone' used in the 2008 HRA to show the vulnerability of the SAC to major development within the buffer was retained for the purpose of continuity and ease of assessment, notwithstanding the fact that the zone may be unsuitable for illustrating the potential impacts of recreation disturbance, due to recreational visitors coming from further afield.

1.2 Summary of Assessment

Since the 2008 version of the Core Strategy, many of the key developments that were considered as possibilities for development in the borough have been removed from the Core Strategy. These include development at Gadebridge North and Boxmoor (formerly potential urban extensions to Hemel Hempstead), several major development sites in Berkhamsted and Tring, the Hemel Hempstead northern bypass and the tunnel fields link road. Further, overall housing numbers for the district have fallen in the current housing programme (2006-2031) from those contained in the Regional Spatial Strategy prior to its quashing as a result of a successful High Court challenge. This reduction in the scale of new housing development should effectively

reduce the risk of air pollution and recreation disturbance, the principal impacts identified in the 2008 HRA, on Chilterns Beechwoods SAC.

The assessment matrices found **no significant effects** on Chilterns Beechwoods SAC from individual developments as a result of either air pollution or recreation disturbance. However, these impacts were examined in more detail and updated avoidance and mitigation measures for both impacts have been provided in order to ensure that there are no cumulative significant impacts on the SAC due to development proposed around Hemel Hempstead and other nearby urban centres in Hertfordshire, Buckinghamshire and Bedfordshire.

1.2.1 Air pollution

The 2008 HRA found that the main risk of air pollution to Chilterns Beechwoods SAC from the Core Strategy is associated with transport emissions. This remains the case in 2011 as there are no new developments proposed that could cause 'point source' pollution. An assessment of 2010 nitrogen and sulphur levels on the SAC shows that transport accounts for a very small proportion of the deposition of both pollutants. Further, both nitrogen and sulphur deposition on the SAC have decreased between 2003 and 2010. It was not possible to determine this decreasing trend in pollution deposition in the 2008 HRA.

1.2.2 Recreation disturbance

Although there have been no specific studies into recreation disturbance in the SAC, the results of a 2007 report by the Chilterns Conservation Board which shows survey results of visitors to the AONB, have been taken into account in the assessment. Various recommendations are made in relation to the provision of suitable alternative natural green space (SANGs), to divert some of the recreational use of the SAC to other areas of the borough. SANGS, biodiversity areas or green infrastructure is likely to be more effective if provided on a large scale, meaning co-operation with other local authorities, key stakeholders and land developers may be needed in order to ensure their effective delivery.

1.3 Consultation and future HRA requirements

1.3.1 Consultation with Natural England

Natural England originally provided comments in 2008, which were taken into account in the final 2008 HRA. In addition, a copy of this summary report has also been sent to Natural England for their comment. They have confirmed that they are satisfied with the content and conclusion of the assessment.

1.3.2 The requirement for future HRA

The final HRA Reports (2008 and 2011) will accompany the Pre-Submission Core Strategy on the DBC website. If any significant deviation occurs between this version of the Core Strategy and the Final Core Strategy, further amendments may need to be made to the HRA. Individual project-level HRAs may also be required for some new developments, in consultation with Natural England. Lower tier HRAs also need to be considered for new developments that could increase recreational disturbance or nitrogen oxide (NO_x) deposition of Chilterns Beechwoods SAC. In

particular, a full Appropriate Assessment at Core Strategy level and any associated mitigation measures (to be agreed with Natural England) would be necessary if large scale greenfield development were to occur within the 3km buffer zone and if accessibility to the SAC was liable to increase due to the development of one or more neighbourhoods outside the SAC buffer zone.

As for the 2008 Report, 'large scale' is defined as development of a scale larger than a new residential neighbourhood.

1 Introduction

1.1 Project background

A Habitats Regulations Assessment (HRA) of Dacorum's Core Strategy Issues and Options was undertaken in 2008¹, hereafter referred to as the 2008 HRA. The HRA assessed the following documents produced by Dacorum Borough Council:

- Core Strategy Issues and Options Paper, May 2006
- Core Strategies (Dacorum Borough and St Albans City and District Councils) Supplementary Issues and Options paper: Growth at Hemel Hempstead, November 2006
- Dacorum's Site Allocations Issues and Options, November 2006
- Dacorum's Schedule of Site Appraisals, November 2006

The HRA was produced in close consultation with Natural England, the statutory consultee for HRAs in England. The 2008 HRA should be read in conjunction with this report.

Since 2008, the Core Strategy has been updated significantly – partly in response to the abolition of Regional Spatial Strategies and their housing targets. The Core Strategy is now at Pre-submission Stage. Due to the changes made to the Core Strategy, Dacorum Borough Council subsequently commissioned Halcrow, in August 2011, to revisit the 2008 HRA and ascertain whether its assessment and conclusions still stand or need to be updated. This HRA is based on the latest version of the Core Strategy², hereafter referred to as the 2011 Core Strategy.

1.2 Habitats Regulations Assessment

HRAs are required under the UK Habitat Regulations³ in order to analyse development plans, projects or proposals, and ascertain any potentially significant effects they may have on internationally recognised sites of nature conservation interest (also known as 'Natura 2000' or European sites). These sites include Special Areas of Conservation (SACs) and candidate SACs designated under the EU's Habitats and Species Directive (hereafter referred to as the Habitats Directive). In this case, the Local Development Framework (LDF), which includes the Core Strategy has been assessed under the Habitats Regulations.

¹ Dacorum Core Strategy Issues and Options: Study to Inform Appropriate Assessment (Screening), April 2008.

² Dacorum's Local Development Framework Core Strategy. Pre-Submission, September 2011.

³ The Conservation of Habitats and Species Regulations 2010. Statutory Instrument No. 490.

A wider description of the HRA process was provided in the 2008 HRA and is not repeated here.

Since 2008, new guidance on the HRA guidance of Local Development Documents has been produced by Natural England:

- The Habitats Regulations Assessment of Local Development Documents. Final Draft Guidance by David Tyldesley and Associates for Natural England, January 2009.

This guidance has been used to more definitively categorise the development options contained in the Core Strategy. A guide to the categories used is provided in Appendix A.

1.3 Relevant Natura 2000 Sites

Consultation with Natural England⁴ in 2007 confirmed that only one Natura 2000 site is relevant to the screening process for Dacorum Core Strategy:

- Chilterns Beechwoods SAC

The Chilterns Beechwoods SAC is predominantly beech woodland and calcareous grassland. Part lies within the administrative area of Dacorum Council, although the wider area spans four separate counties⁵. The other nearest Natura 2000 site, which was discounted from the 2008 HRA due to the prediction of no significant effects (as agreed with Natural England), was Burnham Beeches SAC, which is situated approximately 13.1km from the Dacorum borough boundary.

1.4 HRA Methodology

The approach for the HRA is to re-examine each of the development options examined in the 2008 HRA in turn (of those that remain in the 2011 Core Strategy) and assess the conclusions in relation to possible significant effects on the integrity of Chilterns Beechwoods SAC. This re-assessment has used the Natural England (2009) guidance, which was not available at the time of writing the 2008 HRA. The Natural England (2009) guidance provides assessment categories for each element of the development plan being assessed. These categories are provided in Appendix B.

A 3km 'buffer zone' used in the 2008 HRA to show the vulnerability of the SAC to major development within the buffer was retained for the purpose of continuity and ease of assessment, notwithstanding the fact that the zone may be unsuitable for illustrating the potential impacts of recreation disturbance, due to recreational visitors coming from further afield. This zone is shown in the map provided in Appendix C.

⁴ Email correspondence from Graham Stevens (Natural England), 14/9/2007.

⁵ 35.07% in Hertfordshire, 15.03% Oxfordshire, 43.19 Buckinghamshire, 6.71% Berkshire

2 Dacorum Core Strategy

2.1 Development Options

Table 2.1 shows the major development sites that were contained in the Core Strategy Issues and Options (2008) and their current status in 2011.

Table 2.1: Core Strategy Policies and Development Sites

RELEVANT DPD	RELEVANT ELEMENT OF THE PLAN OR OPTION	FORMER POLICY/ SITE REF	CURRENT STATUS
<p>Dacorum Core Strategy Issues and Options, May 2006</p>	<p>If further greenfield extensions are needed, around which settlement(s) should they be located?</p> <ul style="list-style-type: none"> • Hemel Hempstead • Berkhamsted • Tring • Other settlements outside the Green Belt • Spread around different settlements 	<p>Question 14</p>	<p>The 2011 Core Strategy shows the focus of development to be;</p> <ul style="list-style-type: none"> • concentrated on Hemel Hempstead; • limited at Berkhamsted and Tring (all within 3km of SAC); • limited in the larger villages of Markyate, Bovingdon and Kings Langley (outside of the 3km SAC buffer). • ‘very limited development’ in small villages within the 3km SAC buffer; Potten End, Wigginton and Aldbury. • very limited development in ‘other small settlements and the wider countryside’ but no specific areas are identified and there is a statement to protect and extend Green Infrastructure and Key Biodiversity Areas.
<p>Dacorum’s Site Allocations Issues and Options, November 2006</p>	<p>Are there any particular new sites put forward for consideration that you support?</p>	<p>Question 11</p>	<p>No longer in Core Strategy</p>
	<p>If a town stadium is proposed for Hemel Hempstead, which of the following locations would you prefer?</p> <ol style="list-style-type: none"> a) Within Hemel Hempstead settlement b) Within the Green Belt surrounding Hemel Hempstead c) Former Lucas Sports Field 	<p>Question 62</p>	<p>No detailed proposals within the Core Strategy. Reference to potential location to the east of Hemel Hempstead, on land within St Albans District is made. This will however be progressed through the East Hemel Hempstead Area Action Plan DPD.</p>

Dacorum’s Schedule of Site Appraisals			
Major Development Sites	Land south of Berkhamsted	Be/h2	The Hansburys, Shootersway (Local Allocation LA4) site has a small area of overlap with Be/h2 but to all intents and purposes this site is out of Core Strategy.
	Land at Durrants Lane, Berkhamsted	Be/h12, Be/c4	Now Strategic Site SS1 i.e. Egerton Rothesay School
	Land at New Mill	T/h5	No longer in Core Strategy
	Land adjoining Tring Business Centre, Tring	T/h4	This has been replaced by the local allocation in the Core Strategy (LA6): Land to the West of Tring, Icknield Way
	Land west of Cow Lane	T/L1, T/L3, T/e3	No longer in Core Strategy
	Land between Station Road, Cow Road and London Road	T/h10	No longer in Core Strategy
	Station Road/ Marshcroft Lane, Tring	T/h6, T/e2	No longer in Core Strategy
Transport Infrastructure	Hemel Hempstead Northern Bypass	H/t3	No longer in Core Strategy
	Tunnel Fields, link to New Road, Northchurch, and associated work to junction of New Road/ A4251	Be/t1	No longer in Core Strategy
Dacorum BC, Three Rivers DC and Watford BC Urban Capacity Studies. Final Report: Non-Technical Summary, January 2005	4 sites within the rural settlement of Aldbury, which is within 500m of the SAC.	-	Limited development is earmarked for Aldbury.

<p>Dacorum Borough Council and St Albans City and District Council (combined) Supplementary Issues and Options Paper: Growth at Hemel Hempstead</p>	<ul style="list-style-type: none"> Hemel Hempstead is to be a “Key Centre for Development and Change”. 	<p>-</p>	<p>This remains the case in the Pre-Submission Core Strategy, with a minor change in terminology</p>
	<ul style="list-style-type: none"> Dacorum is expected to provide for 12,000 new dwellings, a significant proportion of this will be through a Green Belt review of Hemel Hempstead. Such a review should aim to provide for growth in new dwellings, jobs and other associated needs beyond the Plan period to 2031. 	<p>-</p>	<p>The target of 12,000 new dwellings in the Borough by 2031 has been reduced to 430 dpa (10,750) in the Pre-Submission Core Strategy. The actual level of new homes expected to be built will be slightly higher than this, due to windfalls.</p>
	<ul style="list-style-type: none"> Dacorum will need to increase current levels of housing completions to 680 per year over the Plan period from 2006. Currently about 345 dwellings a year are being built. 	<p>-</p>	<p>As above</p>
	<p>Development at Pouchen End</p>	<p>Chapter 6, Urban Extensions</p>	<p>This is now Local Allocation LA3 (West Hemel Hempstead)</p>
	<p>Development at Gadebridge North</p>	<p>Chapter 6, Urban Extensions</p>	<p>No longer in Core Strategy</p>
	<p>Development at Boxmoor (South West Hemel Hempstead).</p>	<p>Chapter 6, Urban Extensions</p>	<p>No longer in Core Strategy</p>

2.2 Elements of the Core Strategy 'screened out' of the HRA

Following the Natural England (2009) guidance, and the general approach of the 2008 HRA, the Core Strategy's Strategic Objectives and Policies were assessed to have no significant effect on Chilterns Beechwoods SAC (see category A of Appendix A). This is because the objectives and policies either;

- will not themselves lead to development e.g. because they relate to design or other qualitative criteria for development, or they are not a land use planning policy (category A1);
- Are intended to protect the natural environment, including biodiversity (category A2); or
- Are intended to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European Site (category A3).

3 Assessment Results

3.1 Core Strategy Policies and Development Sites

Table 3.1 shows the assessment for each of the Core Strategy elements 'screened in' to the HRA, providing categories of assessment in accordance with the Natural England (2009) guidance.

Table 3.1: Assessment of Pre-submission Core Strategy (2011) on Chilterns Beechwoods SAC

Policy/ Site Ref	Nature of Effect	Qualifying Interest Feature	Assessment Category (see Appendix A)	Is an Appropriate Assessment required? Y, N
Section 2: Where Change will be focused within the Borough: 1. Hemel Hempstead (focus) 2. Market towns (Berkhamsted, Tring) 3. Large villages 4. Small villages within Green Belt and Rural Area* 5. Other small settlements and the wider countryside	Recreation disturbance**	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates Stag beetle <i>Lucanus cervus</i> (these represent all the qualifying interest features for this SAC)	B ⁶	N
	Air pollution (NO _x deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N
Major Development Sites				
Hemel Hempstead Place Strategy: Marchmont Farm (Local Allocation Site LA1).	Recreation disturbance	All SAC qualifying interest features	B	N

⁶ Category B = No significant negative effect on SAC is likely

	Air pollution (NOx deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N
Hemel Hempstead Place Strategy: Old Town, LA2	Recreation disturbance	All SAC qualifying interest features	B	N
	Air pollution (NOx deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N
Hemel Hempstead Place Strategy: West Hemel Hempstead, LA3	Recreation disturbance	All SAC qualifying interest features	B	N
	Air pollution (NOx deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N
Berkhamsted Place Strategy: Land at Durrants Lane / Shootersway, Berkhamsted (Egerton Rothesay School), Strategic Site SS1	Recreation disturbance	All SAC qualifying interest features	B	N
	Air pollution (NOx deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N
Berkhamsted Place Strategy:	Recreation	All SAC qualifying interest features	B	N

Land at and to the rear of Hanburys, Shootersway, Berkhamsted, LA 4.	disturbance			
	Air pollution (NOx deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N
Tring Place Strategy: Land to the West of Tring, Icknield Way, LA5	Recreation disturbance	All SAC qualifying interest features	B	N
	Air pollution (NOx deposition)	<i>Asperulo-Fagetum</i> beech forests Semi-natural dry grasslands and scrubland facies on calcareous substrates	B	N

* Small villages within the 3km buffer zone around the SAC are: Potten End, Wigginton and Aldbury

** Includes trampling causing soil compaction and soil erosion by walkers, cyclists and horse riders, eutrophication (enrichment of soils and water from dog excrement), spread of invasive species/ pathogens

3.2 Commentary on Assessment

The assessment shown in table 3.1 was based on the premise that no single policy or development site contained in Dacorum's Core Strategy is considered likely in itself to cause significant effects on the SAC. No large scale development⁷ is planned within 3km of the SAC and the 2011 Core Strategy contains significantly fewer development proposals and lower house-building targets than in 2008. However, there remains a possibility that there could be cumulative, or 'in-combination' recreation disturbance or air pollution effects on the SAC. In-combination effects are described further in section 4 of this report. Sections 3.3 and 3.4 summarise the rationale of the assessment shown in table 3.1.

3.3 Assessment of Air Pollution Impacts

The Air Pollution Information System⁸ shows that the principal source of nitrogen and sulphur deposition on Chilterns Beechwoods' qualifying interest features (calcareous grasslands and beech forests) are livestock emissions (which account for 34% of nitrogen deposition) and Didcot A Power Station (accounting for 25% of sulphur deposition), with road transport only accounting for 10% and 3% for nitrogen and sulphur respectively in 2010.

Where no information exists to calculate road-traffic pollutants, impacts are generally considered potentially significant within 200 metres of roads.⁹ Analysis of traffic flows and NOx emissions in the area of Chilterns Beechwoods SAC for the 2008 HRA showed that there were no predictable major causes of concern in terms of NOx vehicle emission effects from roads within 200m of the SAC. Furthermore, background NOx levels measured for Aylesbury Vale show a continuing downward trend, extrapolated to 2010. The following table shows the decrease in deposition of nitrogen and sulphur on Chilterns Beechwoods SAC;

⁷ As for the 2008 Report, large scale development is defined as development above the scale of a new residential neighbourhood.

⁸ <http://www.apis.ac.uk/>, accessed on 2/9/2011.

⁹ This distance is defined according to the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 1 (HA 20/07).

Table 4.1: Trends in nitrogen and sulphur deposition on Chilterns Beechwoods SAC

SAC Qualifying Interest Feature	Nitrogen deposition (kg/ha/yr) 2003/2010	Sulphur deposition (kg/ha/yr) 2003/2010
Semi-natural dry grasslands and scrubland facies	18.5/ 16.2	10.2/8.0
Asperulo-Fagetum beech forests	30/ 26.2	12/ 9.4

3.4 Assessment of recreation disturbance impacts

Although there is no recent data to show recreational impacts on Chilterns Beechwoods SAC specifically, the Chilterns Conservation Board carried out a survey¹⁰ in 1997 that shows the nature of such impacts on the wider Chilterns AONB. The 1997 survey findings were described in the 2008 HRA. In 2007 the Chilterns Conservation Board undertook a follow up survey¹¹, again focused on the AONB as a whole rather than specifically the SAC. Key findings of the 2007 survey include:

- An estimated 55 million leisure visits are made to and within the Chilterns AONB annually, compared with 52 million trips described in the 1997 survey;
- the largest proportion of leisure trips to the Chilterns is made by local residents living within the AONB or in adjoining towns (74%), compared to 81% in the 1997 survey;
- An estimated 94% of all visits to the Chilterns involved a car in 2007, as opposed to 77% in the 1997 survey¹²
- Walking remains the most common recreational activity in the Chilterns, predominantly short walks of less than 2 hours

The surveys carried out by the Chilterns Conservation Board show that although the overall number of leisure visits to the AONB has increased, the proportion of local residents visiting the AONB has decreased. Cycling and mountain biking accounted for only 2% of all activities in the AONB. Disturbance to the SAC from cyclists may therefore be limited. However, walking and in particular, dog walking and dog excrement could still potentially cause an impact, particularly on the semi-natural dry grasslands interest feature. For this reason, precautionary avoidance and

¹⁰ Chilterns Visitor Survey, 1997. Published by the Chilterns Conservation Board.

¹¹ Chilterns AONB Visitor Survey, Final Report, June 2008. Published by the Chilterns Conservation Board.

¹² N.B. The 2007 survey notes that interviews were conducted in and around car parks at sites with little or no public transport, which is likely to create a car bias.

mitigation measures are provided in Section 5. This follows the precautionary approach embedded in the EU Habitats Directive and UK Habitats Regulations.

4 In-combination Effects

4.1 Summary of in-combination effects

It is possible that development in the wider region, particularly in the surrounding urban centres of Luton, Dunstable, Aylesbury and St Albans, could have a combined impact on the Chilterns Beechwoods SAC in terms of exacerbating air pollution or recreation disturbance within or near to the SAC. However, restrictions on development in the Chilterns AONB should help to ensure large-scale development is not in close proximity to the SAC.

It is considered that the potentially significant 'in-combination' effects can be avoided through the implementation of appropriate avoidance and mitigation measures (see section 5).

Water resources were also identified as an issue that required analysis and action at a regional level, but not seen as a threat specifically relevant to Chilterns Beechwoods SAC.

A wider description of in-combination impacts was presented in the 2008 HRA. The key change since 2008 is that less house-building is predicted in South Hertfordshire, due to the abolition of the East of England Plan and other Regional Spatial Strategies by the coalition government.

5 Precautionary Avoidance and Mitigation Measures

5.1 Introduction

Although the Core Strategy incorporates a section on Dacorum's environment, a section on the Sustainability and Appropriate Assessment and an objective to protect biological diversity¹³ the inclusion of a positive statement or policy supporting the integrity of Chilterns Beechwoods SAC would enhance the Core Strategy and provide a suitable policy context for the future consideration of new development. This statement or policy should also specify that, to be in accordance with the Core Strategy, and for detailed proposals to be permitted, the issues raised in any relevant HRAs should be taken into account by developers. However, Natural England (2009) guidance warns that such a statement or policy should not be relied upon if another part of the plan could in some way have a likely significant effect on a European Site.

5.2 Air Pollution

Despite the decline in nitrogen and sulphur deposition described in section 3.2, precautionary mitigation is recommended in order to avoid any future impacts. Limiting NO_x deposition can partly be achieved through;

- Containment of trips;
- Pedestrian, cycle and public transport provision and strategy;
- Development design, including provision of many facilities on-site; and
- Access, parking and off-site highway impacts, including off-site junction improvements

At present, it is not considered necessary for detailed air quality modelling for the new developments proposed in the borough. In the future, if significant new housing or employment developments are considered likely to increase traffic across or within 200m of the SAC air quality modelling may be required to determine the increased traffic use. Where it is determined that a housing option will not contribute any further effect, the housing can proceed without further assessment in terms of air quality. Where housing will add to the traffic usage of roads within 200m of the SAC, the housing may significantly affect the SAC, air pollution modelling and HRA will be required at a project level.

¹³ Strategic Objective 12: To protect and enhance Dacorum's distinctive landscape character, open spaces, biological and geological diversity and historic environment.

A commitment to reducing the impacts of air pollution on biodiversity is recommended for inclusion in the Core Strategy, for example in additional wording for Strategic Objective 15 (To minimise the effects of pollution on people and the environment). Policy CS32 (Air, Soil and Water Quality) could also refer to potential air pollution impacts on biodiversity, including Chilterns Beechwoods SAC.

To consider or reduce the potential for significant 'in-combination' effects at project level, the HRA recommendations in relation to the Core Strategy are as follows;

- Air quality modelling required for any new housing developments where housing will add to the traffic use on roads within 200m of the SAC (particularly the B4506). Alternative development locations may be needed.
- Recommend Code for Sustainable Homes Level 6 standards for large housing developments to reduce air pollution from housing.
- Produce an Air Quality Strategy for the Borough. The Strategy should cover potential impacts on biodiversity (including impacts on European Sites) in addition to impacts on human health. This can be partly based on Dacorum's current air quality monitoring programme.
- Aim to site new developments in locations where commuting distances will be minimised and there are existing strong public transport links and walking and cycling opportunities.
- All major developments in Hemel Hempstead, Berkhamsted and Tring should aim to provide as many on-site facilities as possible, in order to reduce the need to travel. These should include GP facilities, retail outlets, schools, community facilities and public open space.
- Seek submission of Travel Plans for all new developments in the borough, to show how public transport and walking and cycling opportunities will be maximised.
- Section 106 agreements may be required in order for developers to provide assistance in achieving air pollution reduction for their developments, including a commitment to monitoring the impact of the development(s). Such agreements would fall under Policy CS35, Infrastructure and Developer Contributions.
- Promote walking and cycling and the use of public transport to, from and within the SAC. A reduction in car parking spaces within the SAC may be necessary to complement an improved public transport service.

5.3 Recreation

As mitigation for additional visitors and recreational impacts to the SAC, the concept of alternative sites, known as suitable alternative natural green space (SANGs) can be implemented. These were described in the 2008 HRA, but more specific guidance is presented below.

A suite of SANGs should seek to provide the following:

- Some walks of over 5km;
- Routes for cyclists and horse riders of over 5km;
- Some routes suitable for wheelchair users;
- Some sites where users such as dog walkers and horse riders are separated on marked routes;
- Water features;
- Viewpoints;
- Walks within deciduous woodland;
- Areas free from traffic noise

If SANGs are to draw visitors away from the SAC designated features effectively, they have to be of sufficient size, character and quality and provide a number of necessary essential features, as follows:

- SANGs should be able to offer the features described below without their functionality being compromised by unsuitable size, shape, location, topography or other inherent characteristics.
- For all sites there must be adequate parking for visitors, unless the site is intended for local pedestrian use only, i.e. within easy walking distance (400m) of the developments linked to it. The amount of car parking space should be determined by the anticipated numbers using the site and arriving by car.
- If the site is intended for local pedestrian use only, there must be excellent access for people arriving on foot, with a range of access points directly linking housing and the SANGs.
- All SANGs with car parks must have a circular walk that starts and finishes at the car park.
- It should be possible to complete a circular walk of around 2.5km around the SANGS, and for larger SANGs a variety of circular walks allowing people to walk greater distances or to do very short walks.
- Car parks must be easily and safely accessible by car and should be clearly signposted.
- The accessibility of the site must include access points appropriate for the particular visitor use the SANGs is intended to cater for.
- Access points should have signage outlining the layout of the SANGS and the routes available to visitors
- The SANGs must have a safe route of access on foot from the nearest car park and/or footpath/s.
- SANGs must be designed so that they are perceived to be safe by users; they must not have trees and dense scrub encroaching parts of the walking routes.
- Paths must be easily used and well maintained but most should remain unsurfaced to avoid the site becoming too urban in feel. The majority of paths should be suitable for use in all weathers

- SANGs must be perceived as semi-natural spaces without intrusive artificial structures, except in the immediate vicinity of car parks. (Unobtrusive way-markers and some benches are acceptable).
- All SANGs larger than 12 ha must aim to provide a variety of habitats for users to experience (e.g. some areas of woodland, scrub, grassland, heathland, wetland and open water).
- Access within the SANGs must be largely unrestricted with plenty of space provided where it is possible for dogs to exercise freely and safely off lead.
- SANGs must be free from unpleasant visual, auditory or olfactory intrusions (e.g. derelict buildings, intrusive adjoining buildings, dumped materials, loud intermittent or continuous noise from traffic, industry, sports grounds, sewage treatment works, waste disposal facilities).
- SANGs should be clearly sign-posted or advertised in some way.
- SANGs should have leaflets and/or websites advertising their location to potential users. It would be desirable for leaflets to be distributed to new homes in the area and be made available at entrance points and car parks.

Additionally, each SANG should aim to provide for at least one of the further “desirable” features.

- Dog walkers should be able to take dogs from the car park to the SANGs safely off the lead.
- Where possible it is desirable to choose sites with a gently undulating topography for SANGs
- SANGs should provide a naturalistic space with areas of open (non-wooded) countryside and areas of deciduous woodland and water features
- Where possible it is desirable to have a focal point such as a view point, monument etc within the SANGs
- Ideally, smaller SANGs should not have grazing stock; and on larger SANGs, some areas always free from grazing stock should be available.
- SANGs can be created by the following means:
 - enhancement of existing, but under-used, open spaces within the district, funded by developer contributions;
 - developer contributions to fund the purchase, creation and management of alternative sites;
 - developer contributions to fund initiatives within and around the SAC, such as including wardening, support for fire services, on-site management and a series of education and awareness raising initiatives; and
 - the requirement for adequate provision of SANGs within individual developments of 16ha per 1000 new population.

The Council could also consider Biodiversity Enhancement Area (BEA) and multi-functional green infrastructure provision as part of a strategy to avoid recreation disturbance to the SAC.

6 Conclusions

6.1 Final Assessment

6.1.1 Summary

Since the 2008 version of the Core Strategy, many of the key locations in the borough that were considered as possibilities for development have been removed from the Core Strategy. These include development at Gadebridge North and Boxmoor (formerly proposed urban extensions to Hemel Hempstead), several major development sites in Berkhamsted and Tring, the Hemel Hempstead northern bypass and the tunnel fields link road. Further, overall housing numbers for the district have fallen in the current housing programme (2006-2031) compared to the targets contained in the Regional Spatial Strategy prior to its quashing as a result of the successful High Court challenge. This should effectively reduce the impacts of air pollution and recreation disturbance, the principle impacts identified in the 2008 HRA, on Chilterns Beechwoods SAC. However, these impacts were examined in more detail and updated avoidance and mitigation measures for both impacts have been provided in order to ensure there are no cumulative significant impacts on the SAC due to development proposed around Hemel Hempstead and also in the wider region.

6.1.2 Air pollution

It has been shown that the main risk of air pollution to Chilterns Beechwoods SAC from the Core Strategy is associated with transport emissions. However, an assessment of 2010 nitrogen and sulphur levels on the SAC shows that transport accounts for a very small proportion of the deposition of both pollutants. Further, both nitrogen and sulphur deposition on the SAC have decreased between 2003 and 2010.

6.1.3 Recreation disturbance

Although there have been no specific studies into recreation disturbance in the SAC, the results of a 2007 report by the Chilterns Conservation Board which shows survey results of visitors to the AONB, have been taken into account. Various recommendations are made in relation to the provision of suitable alternative natural green space (SANGs), to divert some of the recreational use of the SAC to other areas of the borough. SANGS, biodiversity areas or green infrastructure is likely to be more effective if provided on a large scale, meaning co-operation with other local authorities, key stakeholders and land developers may be needed in order to ensure their effective delivery.

6.1.4 Consultation with Natural England

Natural England originally provided comments in 2008, which were taken into account in the final 2008 HRA. In addition, a copy of this summary report was also

sent to Natural England for their comment. Natural England agree with the avoidance and mitigation recommendations and the conclusions of this report. Their response is provided in Appendix B.

6.2 Next Steps

6.2.1 The requirement for future HRA

The final HRA Reports (2008 and 2011) of the 2011 Core Strategy will accompany the Core Strategy on the DBC website. If any significant deviation occurs between the version of the Core Strategy assessed in this HRA and the final Core Strategy, further amendments may need to be made to the HRA and the conclusion of 'no significant effects' revisited.

Individual project-level HRAs may be required for some new developments, in consultation with Natural England. Lower tier HRAs also need to be considered for new developments that could increase recreational disturbance or NO_x deposition of Chilterns Beechwoods SAC – for example, if traffic usage of roads within 200m of the SAC is likely to increase due to one or more developments. In particular, a full Appropriate Assessment at Core Strategy level and any associated mitigation measures (to be agreed with Natural England) would be necessary if, large scale greenfield development were to occur within the 3km buffer zone and if accessibility to the SAC was liable to increase due to the development of one or more neighbourhoods outside the SAC buffer zone.

Appendix A Key to Natural England Guidance Assessment Categories

Key

The following categories and sub-categories used in the assessment are taken from the Natural England (2009) guidance. It should be noted that the assessment categories used in the matrices are based on background information listed in the main HRA report and the nature of significant or adverse effects is not described in the matrices themselves for the sake of brevity.

General Categories

- (a) **Category A:** elements of the plan / options that would have no negative effect on a European site at all;
- (b) **Category B:** elements of the plan / options that could have an effect, but the likelihood is there would be no significant negative effect on a European site either alone or in combination with other elements of the same plan, or other plans or projects;
- (c) **Category C:** elements of the plan / options that could or would be likely to have a significant effect alone and will require the plan to be subject to an appropriate assessment before the plan may be adopted;
- (d) **Category D:** elements of the plan / options that would be likely to have a significant effect in combination with other elements of the same plan, or other plans or projects and will require the plan to be subject to an appropriate assessment before the plan may be adopted;
- (e) **Category E:** elements of the plan / options the effects of which will be more appropriate for lower tier assessments, in accordance with the criteria set out in Part 4 above;
- (f) **Category F:** elements of the plan / options the effect of which depends on how the plan is implemented.

Sub-categories

Category A: No negative effect	A1	Options / policies that will not themselves lead to development e.g. because they relate to design or other qualitative criteria for development, or they are not a land use planning policy.
	A2	Options / policies intended to protect the natural environment, including biodiversity.
	A3	Options / policies intended to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European Site.
	A4	Options / policies that positively steer development away from European sites and

	associated sensitive areas
--	----------------------------

Category B – no sub-categories

Category C: Likely significant effect alone	C1	The option, policy or proposal could directly affect a European site because it provides for, or steers, a quantity or type of development onto a European site, or adjacent to it
	C2	The option, policy or proposal could indirectly affect a European site e.g. because it provides for, or steers, a quantity or type of development that may be very close to it, or ecologically, hydrologically or physically connected to it or it may increase disturbance as a result of increased recreational pressures
	C3	Proposals for a magnitude of development that, no matter where it was located, the development would be likely to have a significant effect on a European site
	C4	Options, policies or proposals for developments or infrastructure projects that could block options or alternatives for the provision of other development or projects in the future, which will be required in the public interest, that may lead to adverse effects on European sites, which would otherwise be avoided
		Any other options, policies or proposals that would be vulnerable to failure under the Habitats Regulations at project assessment stage; to include them in the plan would be regarded by the EC as ‘faulty planning’
		Any other proposal that may have an adverse effect on a European site, which might try to pass the tests of the Habitats Regulations at project assessment stage by arguing that the plan provides the imperative reasons of overriding public interest to justify its consent despite a negative assessment

Category D: Likely significant effects in combination	D1	The option, policy or proposal alone would not be likely to have significant effects but if its effects are combined with the effects of other policies or proposals provided for or coordinated by the LDD (internally) the cumulative effects would be likely to be significant
	D2	Options, policies or proposals that alone would not be likely to have significant effects but if their effects are combined with the effects of other plans or projects , and possibly the effects of other developments provided for in the LDD as well, the combined effects would be likely to be significant
	D3	Options or proposals that are, or could be, part of a programme or sequence of development delivered over a period, where the implementation of the early stages would not have a significant effect on European sites, but which would dictate the nature, scale, duration, location, timing of the whole project, the later stages of which

		could have an adverse effect on such sites.
--	--	---

Category E: Appropriate for lower tier assessment	E1	An option, policy or proposal would have no effect where no development could occur through the policy itself, because it is implemented through later policies in the same DPD, which are more detailed and therefore more appropriate to assess for their effects on European Sites and associated sensitive areas. These kinds of policies may be found in the Core Strategy where a broad quantity of development may be specified as being delivered through a more specific policy in a later chapter or section of the DPD
	E2	An option, or policy that makes provision for a quantity / type of development (and may indicate one or more broad locations e.g. a particular part of the plan area), but the detailed location of the development is to be selected following consideration of options in later, more site specific DPD. The consideration of options in the later DPD will need to assess potential effects on European Sites.

Category F – no sub-categories

Appendix B Natural England Consultation Comments

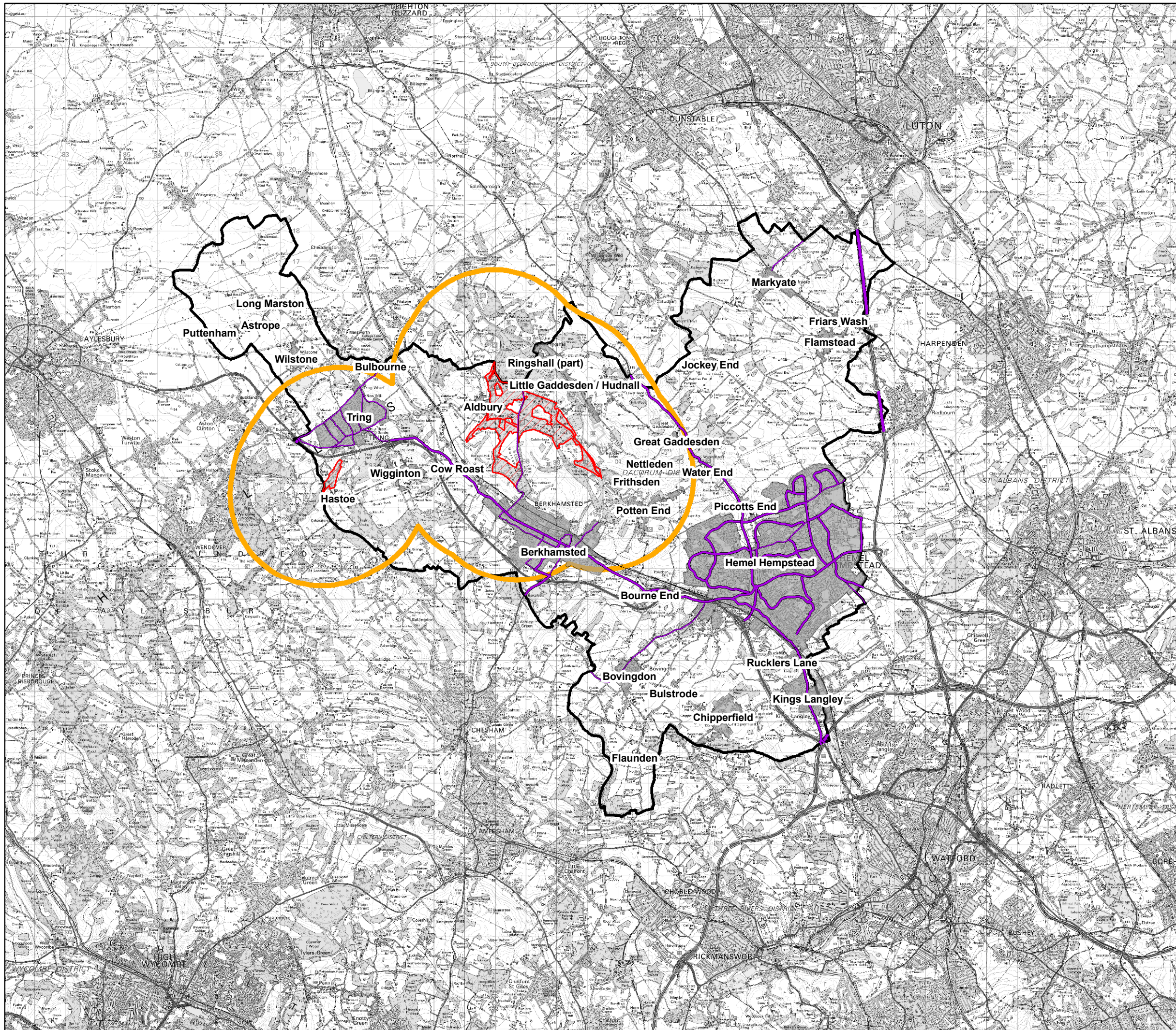
Email sent to SJ Isaac (Halcrow), 9th September, 2011

...I'm satisfied that the report comprehensively identifies the appropriate risks to the Chilterns SAC, as a result of the Core Strategy. The incorporation of suggested avoidance mitigation measures in the document should prove useful as the CS is implemented, and sets a good framework for developer expectations/contributions. We agree with the conclusions of the HRA Screening report and are pleased to note it is flagged that some proposals may need further assessment at a project level...

Catherine Whitehead
Lead Adviser
Land Use Operations
Natural England

Tel: 0300 0601954
Mobile: 07824 361872

Appendix C Map



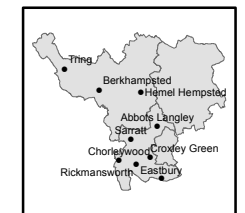
Project: HRA Screening of Dacorum Core Strategy

Figure 1: Chilterns Beechwoods SAC, showing 3km buffer zone



Legend - Dacorum Core Strategy HRA

-  Borough Boundary
-  Settlements
-  Railway Lines
-  Roads
-  3km Buffer of SAC
-  Chilterns Beechwoods SAC



This map is based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings.
Dacorum Borough Council; Licence No. 100018935 2011