

Dacorum Borough Council

Core Strategy Issues and Options Paper

Study to Inform Appropriate Assessment
(Screening Report)

April 2008

Halcrow Group Limited

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Non-technical Summary

The Core Strategy Issues and Options Development Plan Documents (DPDs) for Dacorum Borough Council have been analysed as part of an Appropriate Assessment (AA) screening process. In parallel with this, the Issues and Options papers of three other Councils in South Hertfordshire, St Albans City and District Council, Three Rivers District Council and Watford Borough Council were also subjected to Appropriate Assessment screening, the outcome of which is presented in separate reports, one for each council.

Screening is required where a plan, alone or ‘in combination’ with other plans, could affect Natura 2000 Sites (Special Protection Areas for birds – SPAs, Special Areas of Conservation for habitats - SACs) following Article 6(3) of the European Habitats Directive. The first phase of this screening involved an analysis of Dacorum’s Issues and Options to ascertain any likely significant effects that may compromise the conservation objectives of nearby Natura 2000 sites. In agreement with Natural England, the statutory consultee for Appropriate Assessment screening, it was decided that Chilterns Beechwoods SAC was the only site of relevance to this screening. The next phase of the AA screening involved examining all other plans, programmes and projects that may affect the Chilterns Beechwoods SAC in conjunction with the Dacorum Issues and Options. This included the Issues and Options papers of St Albans City and District Council, Three Rivers District Council, Hertsmere Borough Council and Watford Borough Council, as well as the Welwyn Hatfield District plan and regional plans that relate to the Chilterns, North Hertfordshire, South Bedfordshire, South Buckinghamshire, Aylesbury Vale and the east and south east of England. Only the plans that are considered most likely to have an in-combination impact with Dacorum’s CSIOP are addressed in the main body of this AA screening report, whereas a wider list of plans and programmes considered is provided in Appendix 1.

The AA screening concluded that minor wording changes to some of the questions in the Dacorum’s Site Allocations Issues and Options DPD, including giving more prominence to the Special Area of Conservation in the Dacorum area, Chilterns Beechwoods, when discussing designated areas would assist in the protection of the site. Major development sites put forward in the Schedule of Site Appraisals lie beyond a 3km buffer zone from the SAC. Significant greenfield

development is not expected within the buffers, and development potential would predominantly consist of brownfield sites within settlements and small scale greenfield development required for determined affordable housing need. The biggest, if indirect, threat to the Chilterns Beechwoods SAC would come from development to the west of Hemel Hempstead and/ or the implementation of the Hemel Hempstead Northern Bypass and the associated increases in recreational use. Therefore it has been concluded that a full Appropriate Assessment 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 buffers and if accessibility to the SAC was improved in conjunction with the development of one or more neighbourhoods outside the SAC buffers. Possible in-combination impacts were identified with two waste sites proposed in the Hertfordshire Waste Development Plan Documents Appropriate Assessment Screening. However both sites are greater than 2km from the SAC, which is the airborne transmission limit identified by Bucks County Council Waste Development Framework and mitigation measures have in any event been proposed in the Hertfordshire Waste DPDs AA.

Impacts from the Issues and Options overall are not seen as being significant adverse effects and it is therefore not considered necessary to undertake a full Appropriate Assessment on the Dacorum Core Strategy Issues and Options.

Table 1: Summary of potential impacts of the Dacorum Core Strategy and other plans on the integrity of the Chilterns Beechwoods SAC.

Designated interest feature	Conditions required to support site integrity	Possible impacts from the Dacorum CSIO P	Possible impacts in combination with other plans and projects	Potential impact on site integrity	Recommendations to ensure no adverse effects on Chilterns Beechwoods SAC.
<p>Extensive tract of <i>Asperulo-Fagetum</i> beech forests</p>	<ul style="list-style-type: none"> - No reduction in mixed broadleaved woodland except where clearance will result in benefit for juniper scrub or red helleborine <i>Cephalanthera rubra</i> - Limit impact of browsing/grazing - Natural processes and structural development of woodland - Reduce occurrence of conifer plantations - No reduction in stag beetle habitat - No loss of box dominated scrub 	<p>Impacts are associated with the wider region, rather than specifically the SAC. Impacts could arise from</p> <ol style="list-style-type: none"> a) Core Strategy Issues and Options Paper (May 2006): Question 14 (Greenfield extensions), b) Dacorum/ St Albans Supplementary Issues and Options Paper (Growth at Hemel Hempstead), Chapter 6, Urban Extensions: development at Pouchen End or Gadebridge North c) Dacorum's Schedule of Site Appraisals. Site Code: H/t3 Hemel Hempstead Northern Bypass, various developments at Aldbury, Tring and Berkhamsted <p>Possible environmental impacts of the above include:</p> <ul style="list-style-type: none"> • Loss of habitat and biodiversity through land take • Habitat fragmentation and reduced landscape connectivity • Increased light and noise 	<p>The following have been recognised as the primary potential in-combination impacts on the Chilterns Beechwoods SAC:</p> <ul style="list-style-type: none"> • increased tourist pressure; • increased air pollution from construction works and transport emissions <p>East of England Plan impacts (as above) caused by:</p> <ol style="list-style-type: none"> a) housebuilding targets before 2021, including: <ul style="list-style-type: none"> • 83,200 new homes in Hertfordshire (including 12,000 in Dacorum Borough) • 26,300 new homes in S Beds <p>South Bucks Core Strategy</p> <ul style="list-style-type: none"> • 1350 new homes in S Bucks <ol style="list-style-type: none"> b) Regional Transport Strategy Objectives (M25 widening, M1 improvements) <p>South East Plan impacts (as above) caused by:</p> <ul style="list-style-type: none"> • 5,620 new homes in Windsor & Maidenhead 	<p>In line with the precautionary principal potential impacts on site integrity have been identified. These are:</p> <ul style="list-style-type: none"> • increased disturbance to beech woodland habitat • trampling impacts • reduction in numbers or deterioration in health of species sensitive to air pollution, e.g. beech trees, epiphytes <p>However, the risk of these effects occurring is considered to be low if the recommendations in the next column are followed.</p>	<p>As a precautionary measure, wording changes could be made to question 11 in Dacorum's Site Allocations Issues and Options Paper – see section 4.4.</p> <p>Large scale development within the 3km SAC buffers should require Appropriate Assessment.</p> <p>Development of one or two neighbourhoods at Pouchen End and North of Gadebridge in conjunction with a Northern Bypass could therefore warrant a full Appropriate assessment.</p> <p>Sites closer to the SAC, including Aldbury, Berkhamsted, Hastoe and Tring (all approx. 500m from SAC) would normally be considered small scale brownfield development within the</p>

Designated interest feature	Conditions required to support site integrity	Possible impacts from the Dacorum CSIOP	Possible impacts in combination with other plans and projects	Potential impact on site integrity	Recommendations to ensure no adverse effects on Chilterns Beechwoods SAC.
		<p>pollution associated with urbanisation of countryside and construction works</p> <ul style="list-style-type: none"> Increased air pollution from construction works and transport emissions 	<ul style="list-style-type: none"> 10,200 new homes in S Oxfordshire 6,600 new homes in Wycombe <p>Hertfordshire Minerals Local Plan impacts (as above) caused by:</p> <ul style="list-style-type: none"> Increased mineral extraction Associated infrastructure and traffic After-use and changes in type and intensity of land use. <ul style="list-style-type: none"> Hertfordshire Waste Local Plan/ Appropriate Assessment Screening for the Hertfordshire Waste Development Plan Documents/ Waste Core Strategy Preferred Options Addendum <p>Air pollution effects from operation of waste sites and associated transport emissions and combination impact with new development in surrounding area of SAC (and associated traffic) proposed in Dacorum's Core Strategy Issues and Options</p> <ul style="list-style-type: none"> Report on the likely significant effects of proposed 		<p>settlements or small scale greenfield housing for required affordable housing need, and therefore no significant impacts to the SAC are likely.</p> <p>In all cases of major development environmental impacts should be assessed and controlled for example, ensuring construction works do not cause excessive dust and air pollution (to prevent damage to beech trees, epiphytes etc – see section 5.2) or by maintaining a 3km buffer between significant new housing and the SAC.</p> <p>Appropriate mitigation works should be agreed with Natural England.</p>

Designated interest feature	Conditions required to support site integrity	Possible impacts from the Dacorum CSIOP	Possible impacts in combination with other plans and projects	Potential impact on site integrity	Recommendations to ensure no adverse effects on Chilterns Beechwoods SAC.
			<p>waste sites on SACs/SPAs in Buckinghamshire and surrounding area</p> <p>Minimal air pollution in-combination effects</p>		

1 Introduction

In April 2007 Halcrow Group were appointed by four councils in South Hertfordshire, Dacorum Borough Council, St Albans City and District Council, Watford Borough Council and Three Rivers District Council, to undertake an Appropriate Assessment (AA) screening of their Core Strategy Issues and Options papers.

Each council is in the process of preparing a 'Local Development Framework' (LDF) for its administrative region, which will replace the Local Plan. A key part of the Local Development Framework is the 'Core Strategy', a Development Plan Document which sets out the vision and strategy for the district and to which all other Development Plan Documents must comply. The Issues and Options papers of the four separate councils were analysed to ensure that no significant impacts (on 'European sites' are likely to occur if the options are to be implemented. The impacts are outlined in four separate screening reports, one for each council.

The Core Strategy is the most important document in the LDF as it sets out the framework for planning policy in Dacorum. The Core Strategy comprises various Issues and Options papers which outline which form development should take. The Issues and Options for Dacorum's Core Strategy were formulated during May and June 2006 and these detailed proposals needed to be examined and, if necessary, revised to enable the Core Strategy to be implemented.

The aim of this AA screening report is to analyse the Development Plan Documents, collectively referred to in this report as the Core Strategy Issues and Options papers (CSIOPs) for Dacorum Borough Council and attempt to ascertain any potential effects on European protected sites of nature conservation interest, as described below. This screening will also look at the development plans of councils in neighbouring regions as well as higher level plans. Key relevant plans are examined in sections 5 and 6 of this report, 'In-combination effects' and a wider list of plans examined is provided in Appendix 1.

1.1

Structure of the report

This AA Screening Report is structured as follows:

- Section 1: Introduction: provides background to the Dacorum Core Strategy and the need to undertake the AA screening

- Section 2: Appropriate Assessment: sets out the AA methodology and the legislative requirements
- Section 3: Relevant Natura 2000 sites: describes the site that the screening report focuses on and its conservation requirements
- Section 4: Analysis of Dacorum's Issues and Options: focuses on any parts of the DPD that may have an impact on Natura 2000 sites
- Section 5: In-combination effects: describes elements and policies contained in other plans and programmes that may have a combined impact with policies contained in the Dacorum Core Strategy
- Section 6: Final Screening Assessment: provides an evaluation of predicted impacts, possible mitigation measures, including the use of Suitable Areas of Natural Greenspace (SANGS), and concludes whether or not a full AA is required to satisfy the requirements of the EU Habitats Directive

1.2

Sustainability Appraisal and Strategic Environmental Assessment requirements

In parallel with the AA the DPDs will also be the subject of a Sustainability Appraisal (incorporating Strategic Environmental Assessment (SEA)) which takes a wider approach to broader sustainability and environmental impacts, rather than the narrow approach that AA takes by focusing on the predicted impacts of plans on Natura 2000 sites. Further, Sustainability Appraisal follows the requirements of the Strategic Environmental Assessment Directive (2001/42/EC) whereas Appropriate Assessment follows the requirements of the Habitats Directive, as described in Section 2.2.

2 Appropriate Assessment

2.1 *Requirements of the Habitats Directive*

Appropriate Assessment is required where any plan, alone or 'in combination' with other plans, could have an adverse effect on the integrity of Natura 2000 Sites (i.e. Special Protection Areas (SPAs) and Special Areas of Conservation (SACs)) following Article 6(3) of the European Habitats Directive¹:

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

Article 6(4) of the Habitats Directive goes on to discuss alternative solutions, the Imperative Reasons of Overriding Public Interest (IROPI) test and compensatory measures:

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

The Habitats Directive applies to "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon" (Article 6(3)).

In England, most SACs on land or freshwater areas are underpinned by notification as Sites of Special Scientific Interest (SSSI). AA relates specifically and exclusively to the qualifying interests of Natura 2000 sites and not to the broader conservation interests or requirements under other SSSIs. However, the Scott

¹ Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora

Wilson guidance² argues that the latter should be factored into plan-making as part of the SEA / SA process and the planning authority's duty under section 28G of the Wildlife and Countryside Act 1981 to conserve and enhance SSSIs in carrying out their functions.

2.2

The Appropriate Assessment Process

AA is an assessment of the potential effects of a proposed plan 'in combination' with other plans and projects on one or more Natura 2000 sites (also known as European sites). The 'assessment' proper is a statement that says whether the plan does or does not affect the integrity of a Natura 2000 site. The process of determining whether or not the plan will affect the site(s) is also commonly referred to as 'appropriate assessment'. The following AA methodology is based on the requirements of EU and UK Legislation (described below) and the guidance provided by the Department for Communities and Local Government (DCLG, 2006).³

A summary of where the AA screening phase fits into the AA process can be seen in Table 2 below.

Table 2: Stages of Appropriate Assessment, based on (DCLG 2006)

Task AA1	Screening – identifying likely significant effects
Task AA2	Appropriate Assessment and ascertaining the effect on site integrity
Task AA3	Mitigation measures and alternative solutions

This report presents the findings of Task AA1; the AA screening phase. If the screening assessment, in agreement with Natural England (the statutory consultee), considered that Dacorum's Issues and Options are likely to cause significant adverse impacts on any Natura 2000 site then a full AA report incorporating Task AA2 would need to be carried out.

² *Appropriate Assessment of Plans*. Scott Wilson, Levett-Therivel, Treweek Environmental Consultants, Land Use Consultants, September 2006.

³ DCLG, 2006. Planning for the Protection of European Sites: Appropriate Assessment. Guidance for Regional Spatial Strategies and Local Development Documents.

(a) Tasks AA1 and AA2

Through Tasks AA1 and AA2, Appropriate Assessment promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any negative impacts on Natura 2000 sites by identifying possible impacts early in plan-making, and altering the plan in order to avoid such impacts. These possible impacts should be identified during the screening phase; Task AA1, and more detailed effects on the integrity of Natura 2000 sites should be identified in Task AA2.

(b) Task AA3

Mitigation measures should also be applied during the AA process to the point where no adverse impacts on the site(s) remain. In fact, if the plan is likely to result in any adverse effects, and no further practicable mitigation is possible, then it should be rejected (i.e. not taken forward in its current form). Under such a worst-case scenario, the plan may have to undergo an assessment of alternative solutions (third stage). Compensatory measures are required, as a fourth stage, for any remaining adverse effects, but they are permitted only if (a) there are no alternative solutions and (b) the plan is required for imperative reasons of overriding public interest (the IROPI test). These are very onerous tests which plans are generally considered unlikely to pass.

2.3

Appropriate Assessment and Land Use Planning Documents

In October 2005, the European Court of Justice ruled that ‘appropriate assessments’ must be carried out on all land use planning documents in the United Kingdom in order to demonstrate that their implementation would not adversely affect sites designated as of being of European importance. Following the ruling, the Department for Environment, Food and Rural Affairs (DEFRA) published draft amendments to the Habitats Regulations⁴ on 8th May, 2006 and the amendments came into force in full on 21st November 2007. DEFRA⁵ has summarised the amendments as enacting the following changes:

⁴ European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the “Habitats Directive)

⁵ ‘European Wild Birds and Habitats Directives.’ Available on <http://www.defra.gov.uk/wildlife-countryside/ewd/ewd09.htm>, accessed on 23/04/08.

- Simplifying the species protection regime to better reflect the Habitats Directive
- Providing a clear legal basis for surveillance and monitoring of European protected species
- Toughening the regime on trading European Protected Species that are not native to the UK

The Habitats Regulations aim to transpose the requirements of the Habitats Directive into domestic legislation. These amendments apply to England and Wales only.

2.4

Role of Organisations

(a) Competent Authorities

In the case of local development documents such as those contained in the Core Strategy, the Local Planning Authority takes the role of competent authority for the purposes of the Habitats Regulations.

Competent authorities are responsible for:

- making an appropriate assessment before deciding to undertake, or give any consent, permission or other authorisation for a plan or project likely to have a significant effect on a Natura 2000 site, either alone or in combination with other plans and projects;
- consulting the appropriate nature conservation body and having regard to its representations; and
- ensuring that if there is a negative assessment of a plan or project, agreement to that plan or programme is only given if there are no alternative solutions, it must be carried out for imperative reasons of overriding public interest, and any compensatory measures that may be required are secured.

(b) Natural England (formerly English Nature, the Rural Development Service (DEFRA), Landscape, Access and Recreation Department of the Countryside Agency)

Natural England implements, on behalf of the Government, international conventions and EC Directives on nature conservation encompassed in the

Conservation (Natural Habitats, &c.) Regulations 1994 and the Conservation (Natural Habitats, &c.) Amendment) (England and Wales) Regulations 2006 consultation draft, by:

- providing advice on whether plans and programmes are likely to have a significant effect (either alone or in combination with other plans and projects) when requested to do so;
- advising competent authorities whether a plan or programme is necessary for the management of the site;
- commenting on appropriate assessments;
- providing advice on the ecological requirements of any compensatory measures; and
- providing advice on the suitability of any proposed compensatory measures.

The draft Habitat Regulations 2006 imply that the competent authority can agree if the strategy is likely to cause significant impacts, but it cannot 'give effect' to the strategy until an appropriate assessment has been carried out and determined that it will not adversely affect the integrity of the Natura 2000 site.

(c) Secretary of State

The Secretary of State is responsible for:

- securing any necessary compensatory measures to ensure that the overall coherence of Natura 2000 is protected;
- confirming that any compensatory measures are sufficient to maintain the coherence of Natura 2000;
- informing the Commission of the measures adopted; and
- directing the plan-making authority not to give effect to a plan that may have an adverse affect on site integrity.

2.5

AA Screening Methodology

The methodology developed for this AA screening is based upon the following guidance documents:

- European Commission (2001). Assessment of plans and projects significantly affecting Natura 2000 sites.
- Department for Communities and Local Government (2006). Planning for the Protection of European Sites: Guidance for Regional Spatial Strategies and Local Development Documents.

The methodology is shown in Table 3.

Table 3: AA screening methodology for the Dacorum Core Strategy

STEP	DESCRIPTION	COMMENT FOR DACORUM CORE STRATEGY
AA1 - 1	List any Natura 2000 sites within, adjacent to or associated with the area that the plan(s) cover. Review the site(s)' qualifying interest features, conservation objectives and Favourable Condition Tables. Analyse any underlying trends.	Results given in Section 3.
AA1 - 2	Determine whether the plan is directly connected with or necessary to the management of the Natura 2000 site. If it is, then no further assessment is necessary.	Dacorum Borough Council's Core Strategy is not directly connected with the management of any Natura sites within the District. The remaining steps were followed.
AA1 - 3	Identify and discount all policies and proposals that will have no significant impact on the Natura 2000 site(s) (including direct indirect and secondary impacts).	Results given in Section 4
AA1 - 4	Identify any 'in combination' effects of the plan with other plans and projects (including direct indirect and secondary impacts), i.e. the cumulative effect of	Considered in combination with neighbouring regions (Section 5.2) and higher level plans (section 5.3). Results given in Section 5.4

STEP	DESCRIPTION	COMMENT FOR DACORUM CORE STRATEGY
	influences of all the plans and projects on the site(s)' conditions required to maintain integrity.	
AA1 - 5	Identify policies and proposals that may have a significant impact (including direct, indirect and secondary impacts) to take through to the AA phase if considered necessary (Task AA2).	Results given in Section 6 Continuation to the appropriate assessment phase (Task AA2) was not necessary.

Use of Buffer zones

As part of step AA1-3 in table 3, above, which involved identifying policies and proposals that could potentially cause significant adverse impacts on the SAC, it was agreed with Natural England to use a 5km 'buffer zone' around the SAC. This was agreed in order to protect the SAC from nearby development proposed in the Dacorum CSIOP. This was seen as a precautionary guide to the distance potential impacts could occur from. However, this zone was only used as an approximate guide and it was acknowledged that impacts may still be caused from outside of this zone – for example, a major new point source of air pollution. An additional 3km buffer zone was used to add extra protection to the SAC. It was agreed with Natural England that significant greenfield development should be avoided within this 3km zone; a full Appropriate Assessment would be needed for development of this kind within 3km of the SAC boundary.

3 Relevant Natura 2000 sites

3.1

Background

The significance of a plan's effects on a Natura 2000 site depends on whether the "integrity" of the site is affected. Article 6(3) of the Habitats Directive requires that:

*"the competent national authorities shall agree to the plan... only after having ascertained that it will not adversely affect the **integrity of the site** concerned..."*

To determine what is meant by the "integrity" of the site, it is important to discover why the site was designated. This is a key stage in the AA process. The following information should thus be collated, where possible, for each relevant Natura 2000 site:

- Qualifying interest features: These are the reasons why the Natura 2000 site has been designated, for instance the endangered species that occupy the SAC; rare habitats that occur there; or threatened birds that breed or over-winter in the SPA. The AA focuses on the qualifying interest features that were the primary reasons for the site's designation.
- The site's conservation objectives: These help to focus the assessment. Conservation objectives are a statement of the overall nature conservation requirements for a site, expressed in terms of the favourable condition required for the habitats and/or species for which the site was selected.
- The Favourable Condition Table for the site: Although these tables are designed primarily for monitoring the state of a site, they give information on the trends and environmental conditions required to sustain or promote qualifying interest features and site integrity. However, they should be treated with caution, as favourable conditions as assessed for SSSIs may have little bearing on the conservation status of the features for which a site has been designated.

Source: *Appropriate Assessment of Plans*. Scott Wilson, Levett-Therivel, TrewEEK Environmental Consultants, Land Use Consultants, September 2006.

The EC (2000) guidance states, “A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realised, the capacity for self repair and self renewal under dynamic conditions is maintained, and a minimum of external management support is required.” Some habitats already require heavy management to maintain their site integrity, e.g. through drainage or periodic burning.

The integrity of a site relies on the maintenance of an environment which will sustain its qualifying features and ensure its continuing viability. Legally the focus of AA is on the site’s qualifying features and associated conservation objectives, but these rely fundamentally on ecological processes and functions for their maintenance in a favourable condition and cannot be appraised in isolation from them. Essential to the maintenance of interest features and the integrity of the site are those environmental conditions which enable key ecological processes and functions to persist. These might include the quantity of water reaching a site, the quality of air, the stability of the climate, or a low level of disturbance.

Official citations, conservation objectives and Favourable Condition Tables for each Natura 2000 site are presented within Appendix 2, and a summary is given below.

3.2

Task AA1: Natura 2000 Sites that could be affected by the Dacorum Core Strategy

The results of Task AA1-1 are presented in this section. Consultation with Natural England 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 a beech woodland. It lies within the administrative area of the St Albans and Dacorum Councils and spans four separate counties. Details are given in the sections below and in Table 4. The other nearest Natura 2000 site which was discounted from this AA screening report for the plan having no adverse influence on them (as agreed with Natural England) was Burnham Beeches, which is situated approximately 13.1km from the Dacorum district boundary.

3.2.1

Chilterns Beechwoods SAC

A map showing the location of the Chilterns Beechwoods SAC in relation to Dacorum Borough is given in Appendix 3 Figure 1. The following table summarises the basic characteristics of the SAC:

Table 4: Summary of details of the Chilterns Beechwoods SAC

Grid Ref	SP975134
SAC EU code	UK0012724
Status	Designated Special Area of Conservation (SAC)
Area (ha)	1276.48
Administrative Regions/ % cover	Buckinghamshire (43.19%) Hertfordshire (35.07%) Oxfordshire (15.03%) Berkshire (6.71%)
Component SSSIs	<ul style="list-style-type: none">• Ashridge Commons and Woods• Tring Woods• Bradenham Woods, Park Wood and The Coppice• Aston Rowant Woods• Bisham Woods• Ellesborough & Kimble Warrens• Hollowhill & Pullingshill Woods• Naphill Common• Windsor Hill

Source: <http://www.jncc.gov.uk/> Accessed on 24/7/07

3.2.2

Qualifying interest features

The primary reason for site selection of the Chiltern Beechwoods SAC is the extensive tract of *Asperulo-Fagetum* beech forests, which are an Annex I Habitat in the EU Habitat Directive, indicating that they are of European nature conservation importance (JNCC⁶). The Chilterns Beechwood SAC is in the centre of the habitat's range in the UK. The woodland is part of a grassland-scrub-woodland mosaic. A distinctive feature in the woodland flora is the occurrence of the rare coralroot *Cardamine bulbifera*.

Another Annex I habitat is present; semi-natural dry grasslands and scrubland facies on calcareous substrates, which is a qualifying feature but not a primary reason for site selection. The stag beetle is an Annex II species (in the EU Habitats Directive) that is also a qualifying feature but not a primary reason for site selection.

3.2.3

Conservation Objectives

The conservation objectives for the Chilterns Beechwoods SAC vary according to the component SSSI sites, as shown in Table 5 below. Details of these are given in the SSSI citations presented in Appendix 2. These are considered the key factors in maintaining the integrity of the site.

⁶ Source: <http://www.jncc.gov.uk/> Accessed on 24/7/07

Table 5: Chilterns Beechwoods SAC component SSSIs and their Conservation Objectives

SSSI SITES WITHIN CHILTERN BEECHWOODS SAC	CONSERVATION OBJECTIVES
Bradenham Woods, Park Wood and The Coppice	Subject to natural change, to maintain, in favourable condition, the beech forest habitat (<i>Asperulo-Fagetum</i> beech forest) and habitat for the stag beetle
Ellesborough and Kimble Warrens	Subject to natural change, to maintain, in favourable condition, the internationally important beech woodland habitat and the internationally important dry grassland and scrubland habitat
Naphill Common	Subject to natural change, to maintain, in favourable condition, the beech forest habitat (<i>Asperulo-Fagetum</i> beech forest).
Windsor Hill	Subject to natural change, to maintain, in favourable condition, the beech forest habitat (<i>Asperulo-Fagetum</i> beech forest).
Hollowhill & Pullingshill Woods	Subject to natural change, to maintain, in favourable condition, the beech forest habitat (<i>Asperulo-Fagetum</i> beech forest) and habitat for the Ghost orchid.
Bisham Woods	Subject to natural change, to maintain, in favourable condition, the beech and dog's mercury woodland and beech/bramble woodland habitat and habitat for stag beetle.
Ashridge Commons and Woods	Subject to natural change, to maintain, in favourable condition, beech and dog's mercury woodland and beech/bramble woodland habitat
Aston Rowant Woods	Subject to natural change, to maintain, in favourable condition, the beech forest habitat (<i>Asperulo-Fagetum</i> beech forest).
Tring Woods	Subject to natural change, to maintain, in favourable condition, the 'Broadleaved, Mixed and Yew Woodland – Lowland' habitat

Source: Natural England: Conservation Objectives and Definitions of Favourable Condition for Designated Features of Interest

3.2.4

Favourable Condition Tables

Although the Favourable Condition Tables are used primarily for monitoring the status of the site, they give information on the trends and environmental conditions required to sustain or promote qualifying interest features and site integrity. Table 6 shows the qualifying features for the Chilterns Beechwoods SAC and key environmental conditions required to support site integrity.

Table 6: Chilterns Beechwoods SAC qualifying features and key environmental conditions required to support the feature

QUALIFYING FEATURES	COMMENTS ON NATURE CONSERVATION IMPORTANCE	KEY ENVIRONMENTAL CONDITIONS TO SUPPORT SITE INTEGRITY
Asperulo-Fagetum beech forests	A distinctive feature in the woodland flora is the occurrence of populations of the rare coralroot	<ul style="list-style-type: none"> - No reduction in area of mixed broadleaved woodland except where clearance will result in benefit for juniper scrub or red helleborine <i>Cephalanthera rubra</i> - Limit impact of browsing/grazing - Natural processes and structural development of woodland should occur such as presence of open space and old trees; dead wood on ground; standing dead trees - Reduce the occurrence of conifer plantations

QUALIFYING FEATURES	COMMENTS ON NATURE CONSERVATION IMPORTANCE	KEY ENVIRONMENTAL CONDITIONS TO SUPPORT SITE INTEGRITY
Broadleaved mixed and yew woodland	Beech and dogs mercury woodland and beech/bramble woodland (Bisham Woods and Ashridge Common and Woods only)	- No loss of woodland extent
Broadleaved mixed and yew woodland	Occurrence on the Red list species, Stag beetle <i>Lucanus cervus</i> (Bisham Woods only)	- Stag beetle is dependant upon the presence of large diameter, permanently moist, rotting timber in the form of fallen logs or large tree stumps.
Beech/ash woodland	Beech and ash woodland (Ellesborough and Kimble Warrens SSSI only)	- No loss of woodland
Mixed scrub	Box dominated scrub (Ellesborough and Kimble Warrens SSSI only)	- No loss of box dominated scrub

Source of information: Natural England

Chilterns Beechwoods comprise nine SSSIs, 17 units of which have SAC designated interest features. The condition of the SSSIs have been assessed by Natural England⁷ and 10 units, 584.2 hectares (59%) have been assessed as being in favourable condition, whilst, 7 units, 400.51 hectares (41%) have been assessed as unfavourable-recovering. The majority of the unfavourable-recovering area is within the Ashridge Commons and Woods SSSI and is due to presence of bracken and non native species such as laurel.

⁷ Natural England Website <http://www.english-nature.org.uk/Special/ssi/search.cfm>, assessment compiled by Natural England in September 2007, accessed on 19/10/07

3.2.5

Vulnerability

The following JNCC citation⁸ shows the vulnerability of Chilterns Beechwoods SAC.

The majority of beechwoods in the Chilterns are very uniform in terms of age-class and species composition, as a result of historical promotion of beech as a timber tree. Significant changes to the structural and species diversity of these woods are required in order to promote a more natural composition.

Beech woodland in the Chilterns is currently facing a decline due to very low market value for timber and damage to young trees by grey squirrels. The availability of financial support through the Woodland Grant Scheme goes some way in helping to address this issue but it is not clear whether this offers sufficient incentive to woodland managers to continue to manage in ways which will promote an increase in structural and species diversity of the characteristic beechwood communities. In particular, there may be a lack of sufficient financial support to provide for the retention of a larger proportion of mature trees in order to increase the provision of dead-wood habitat. This latter issue is the subject of a joint national review by Natural England and Forestry Commission.

The long-term sustainability of the juniper populations is uncertain due to the lack of natural regeneration and a poor ability to compete with other scrub species. Means of improving the prospects for juniper in the Chilterns are currently being investigated; a joint initiative between Natural England, local authorities and the local wildlife trust is in place.

As a result of the consultation with Natural England for this AA Screening Report, it was established that water abstraction in the region surrounding the SAC would be unlikely to have an impact on the SAC itself. Groundwater pollution is also unlikely to have any effect as no watercourses run through the SAC. Consultation with the Environment Agency also confirmed that Chilterns Beechwoods SAC were not fed by or connected to any major water courses, so were unlikely to be affected by changes in abstraction in the vicinity:

'Chilterns beechwoods was never identified as at particular risk from abstractions or discharges to water. The beechwoods are on the Chiltern escarpments, and as a result generally have a deep 'unsaturated' zone. This in effect means that they are a long way from the groundwater table and

⁸ Citation taken from Chilterns Beechwoods SAC site description on <http://www.jncc.gov.uk/> accessed on 10/08/07, amended to reflect updated nomenclature of English Nature

*are not fed by any major surface watercourses. From this the EA concluded that they are at a low risk of impact from water abstraction and hence none of our existing abstraction licences (Public Water Supplies and others) could be having an impact.*⁹

There is a possibility that increased tourist numbers may cause additional pressure on the SAC. For example, increased trampling could lead to sapling die-off and increased numbers of people may require increased management for health and safety reasons; more dead wood and standing dying trees may subsequently need to be removed from the site.

According to the UK Habitat Action Plan¹⁰ for Lowland Beech and Yew Woodland, the main factors affecting this type of habitat in the UK are as follows:

- Grey squirrels (*Sciurus carolinensis*)(and in the Chilterns, edible dormouse (*Glis glis*)) strip the bark from beech trees (between 10 and 40 years old) which can result in tree death, disruption of normal age structure and shifts in species composition;
- Rabbits can also cause damage (bark stripping and eating regeneration) in some beech and yew areas;
- Deer browsing on seedlings and saplings, is a widespread problem, which limits capacity for regeneration;
- Introduced species, that replace native beech and yew woodland species. Some woods were planted with conifers in the past; locally, invasive species may include sycamore (*Acer pseudoplatanus*), *Rhododendron* species, Turkey oak (*Quercus cerris*) and cherry laurel (*Prunus laurocerasus*);
- The predominance of the older age classes in much beech high forest has increased the susceptibility of the beech population to damage from droughts and storms;
- Lack of interest, expertise and incentives amongst some owners results in much beech and yew woodland being unmanaged, or managed unsympathetically;

⁹ Quoted from South Bucks District Council, Appropriate Assessment: South Bucks Core Strategy Preferred Options Document, May 2007.

¹⁰ Part of the UK Biodiversity Action Plan: <http://www.ukbap.org.uk/UKPlans.aspx?ID=2>

- Air pollution may cause 'decline' in beech trees (increasing their susceptibility to disease), and damage to epiphyte populations;
- Fragmentation of the habitat as a result of development; and
- Climate change, potentially resulting in changes in the vegetation communities.

4 Analysis of Dacorum Issues and Options

4.1 *Task AA1-2: Connection with SAC Management Requirements*

Following a review of Dacorum's Core Strategy Issues and Options and consultation with Natural England, the findings of Task AA1-2 were that Dacorum Borough Council's Core Strategy is not directly connected with the management of any Natura 2000 sites within the Borough, and therefore the remaining AA screening methodology steps were followed.

4.2 *Task AA1-3: Options that will not Affect the SAC*

The review of the Dacorum Core Strategy and consultation with Natural England identified any aspects of the plan and associated policies and schemes that might influence the conditions required to be maintained or improved to preserve the integrity of the Natura 2000 sites. They are described below and summarised in section 6.

4.2.1 *Quick finds*

The initial sweep of Core Strategy policies reviewed during Task AA1-3 identified that there are a small number of policies that could potentially have a significant impact on the Chilterns Beechwoods SAC (including direct, indirect and secondary impacts). Issues and options concerning Sustainable Development, Retailing and Community Development were seen to be benign, i.e. no adverse impacts were predicted for the SAC. However, several other questions posed in these DPDs were considered to require further investigation into their potential impacts on the SAC and are discussed below.

4.3 *Background to Dacorum's Issues and Options*

In addition to the Core Strategy Issues and Options Paper and the Site Allocations Issues and Options Paper, the Council has consulted on a 'Core Strategy Supplementary Issues and Options Paper – Growth at Hemel Hempstead (November 2006)'. Site allocations documents have also been made available for consultation.

In summary, the following documents were examined as part of the Appropriate Assessment screening process for 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

4.4

Options that may impact on the SAC

The following question was considered to have potential indirect consequences for the Chilterns Beechwoods SAC:

a) Analysis of Dacorum's Core Strategy Issues and Options Paper, May 2006

Question 14: If further greenfield extensions are needed, around which settlement(s) should they be located?

- Hemel Hempstead
- Berkhamsted
- Tring
- Other settlements outside the Green Belt
- Spread around different settlements

Recommendation

As a precautionary measure, to avoid adverse environmental impacts on the Chilterns Beechwoods SAC, an appraisal of all significant greenfield development in the Borough is required. Significant greenfield development would include any neighbourhood or development that is of sufficient size to adversely affect the integrity of the SAC, i.e. degrading the extensive tract of Asperulo-Fagetum beech forests, the primary reason for SAC site selection. The draft East of England Plan directs growth to Hemel Hempstead, the largest town in the borough. The Habitats Directive Assessment for the Draft Revisions to the Regional Spatial Strategy for the East of England concludes that there would be no significant likely impact from the growth of Hemel Hempstead, but that local Appropriate Assessment screening is required.

However it is noted that significant development and expansion options to the west or north-west of Hemel Hempstead would be at least 3km away from the edge of the SAC. By way of comparison, the Appropriate Assessment for the

Wycombe Local Development Framework Site Allocations Preferred Options Document identified a methodology with the help of Natural England, this also considers the relationship to the Chilterns Beechwoods SAC. It concluded that a 2km buffer zone from the edge of the SAC would be appropriate to determine any direct impacts within the buffer zone from small scale brownfield development, such as recreational pressure. Consequently it has been assumed that a 3km buffer be used to determine any direct impacts from brownfield and small scale greenfield developments within the buffer zones, the latter being required for identified affordable housing need. Any significant greenfield development should be directed outside the 3km buffer zones or a full Appropriate Assessment would be required. The 3km buffer zones would minimise possible environmental impacts to the SAC, which could include:

- Loss of habitat and biodiversity through additional land-take (on previously undeveloped land) for new housing development and associated possible future expansion of transport network;
- Habitat fragmentation and reduced landscape connectivity from possible future expansion of transport network ;
- Increased disturbance from light, activity and noise from the temporary construction works and longer-term urbanisation affecting wildlife;
- Increased disturbance and noise affecting wildlife and trampling impacts affecting sapling regeneration from increased visitors;
- Increased air pollution from construction works and increased transport emissions affecting species and plant communities sensitive to air quality, such as beech trees and epiphytes.

While a full Appropriate Assessment would not be expected if development occurred outside the 3km SAC buffers, it is still considered that in the event of significant development, local mitigation measures should be provided (subject to consultation with Natural England), and major development generally kept as far from the SAC as practicable.

b) Analysis of Dacorum's Site Allocations Issues and Options, November 2006

- *Question 11: Are there any particular new sites put forward for consideration that you support?*

Recommendation

In the accompanying text to this question, it is recommended that Natura 2000 sites, as defined by the Habitats Directive, are added to the top of the list of key environmental designations that development should avoid detrimental impacts upon.

- *Question 62: If a town stadium is proposed for Hemel Hempstead, which of the following locations would you prefer?*
 - a) *Within Hemel Hempstead settlement*
 - b) *Within the Green Belt surrounding Hemel Hempstead*
 - c) *Former Lucas Sports Field*

Recommendation

It is recommended that if option b) is kept that the wording be changed to indicate that other environmental designations would not be affected by development in the Green Belt.

c) Analysis of Dacorum's Schedule of Site Appraisals

Major Sites

To analyse the Schedule of Site Appraisals in a methodical manner, buffers of 3km from the edge of the SAC have been used. A list of major sites (above 10ha in size), which lie within 3km of the SAC is shown in Table 7.

Table 7: Major development sites

Location	Site Ref	Size/ha
Land south of Berkhamsted	Be/h2	111.43
Land at Durrants Lane, Berkhamsted	Be/h12, Be/c4	14.26
Land at New Mill	T/h5	14.63
Land adjoining Tring Business Centre, Tring	T/h4	15.21
Land west of Cow Lane	T/L1, T/L3, T/e3	35.91

Location	Site Ref	Size/ha
Land between Station Road, Cow Lane and London Road	T/h10	45
Station Road/ Marshcroft Lane, Tring	T/h6, T/e2	53.65

Figure 2 identifies the SAC buffers and the major sites put forward in the Schedule of Site Appraisals. No major urban areas lie within the 3km buffers. There are seven major sites within the buffers located on the fringes of Tring and Berkhamsted.

Recommendations on major sites

The nearest major sites are on the south west and east of Tring which are only expected to deliver brownfield development within the settlement and small greenfield development required for affordable housing need. Appropriate Assessment would be required if large greenfield sites within the 3km SAC buffers were required to come forward.

Transport Considerations

The following proposed routes were considered to have potential implications of relevance to the Chilterns Beechwoods SAC.

Site Code: H/t3: Hemel Hempstead Northern Bypass

The proposed route of the Hemel Hempstead Northern Bypass passes the south eastern tip of Chilterns Beechwoods SAC, just to the south of Potten End, at a distance of as near as 2.5 km to the SAC. Figures 1 and 2 in Appendix 3 illustrate the proposed route, based on a figure provided by Dacorum Borough Council. ¹¹

Site Code: Be/t1: Tunnel Fields, link to New Road, Northchurch, and associated work to junction of New Road/ A4251

¹¹ Figure 6.8. Indicative Alignment of the Northern Bypass. Wootton Jeffreys Consultants Ltd.

In the Site Appraisals DPD the description of this new road proposal specifies that Northchurch Conservation Area, on the southern tip of the Chilterns Beechwoods SAC, would be bypassed and the impact on the ecology of the wildlife site would be taken into account. The new road would be a short link approximately 360m away from the edge of the SAC. Impacts from air pollution would not be considered a significant impact, as being over 200m away (as the guidelines in the Habitats Directive Assessment for the Draft Revision to the Regional Spatial Strategy for the East of England suggests on page 3, paragraph. 2.3).

Recommendations on Transport

It is concluded that the option of constructing a Hemel Hempstead Northern Bypass and Tunnel Fields link should not produce significant pollution impacts to the SAC. Both are more than 200m away and air pollutants are presumed to dissipate sufficiently after 200m. The Tunnel Fields link would not significantly alter the attractiveness of the route to Ashridge and the SAC. However, the Hemel Hempstead Northern Bypass would have great potential to attract traffic and visitors to the SAC. For the Northern Bypass combined with significant greenfield development up to 5km from the edge of the SAC, Appropriate Assessment for the combined impacts will be expected.

Other Developments

Small scale developments in the rural areas have been put forward in Dacorum's Urban Capacity Study¹². This includes 4 sites within the rural settlement of Aldbury, which is within 500m of the SAC.

Recommendations on Other Developments

This redevelopment and continued use of land will have a minimal impact upon the conservation objectives of the SAC and therefore a conclusion of no likely significant impact has been reached.

¹² Dacorum BC, Three Rivers DC and Watford BC Urban Capacity Studies. Final Report: Non-Technical Summary, January 2005.

d) Analysis of Dacorum Borough Council and St Albans City and District Council (combined) Supplementary Issues and Options Paper: Growth at Hemel Hempstead

The draft East of England Plan provides the strategic guidance for Dacorum Borough Council's preparation of local planning policies up to 2021 and beyond. In October 2007 the revised Plan contained a number of key recommendations that have major implications for the level of housing growth and other development needs in the Borough, particularly Hemel Hempstead. In summary these are:

- Hemel Hempstead is to be a "Key Centre for Development and Change".
- Dacorum is expected to provide for 12,000 new dwellings between 2001 and 2021; 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.
- 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.

Much of the development outlined in the draft East of England Plan for Dacorum and Watford is likely to occur in brownfield sites, as identified in both Councils' Urban Capacity Studies, thus reducing impacts on the countryside.

The overall level of housing, combined with development proposed by all four councils, and development in the wider region surrounding the SAC, may lead to increased tourist pressure from an increase in population and new road links that improve accessibility. The Draft East of England Plan has concluded that there is no significant risk of in-combination effects that may impact on the health of the SAC, but that local level screening is required.

Identified Possibilities for Growth from Dacorum's CSIOP and possible environmental impacts

Analysis of Growth at Hemel Hempstead paper revealed that in Chapter 6, *Urban extensions*, development is proposed for land at Pouchen End (West Hemel Hempstead), Gadebridge North (North West Hemel Hempstead) and Boxmoor

(South West Hemel Hempstead). This may involve the development of one or more entirely new neighbourhoods in the Green Belt.

Gadebridge North is located 3km away from the SAC, Pouchen End is located approximately 3.5km from the SAC, and Boxmoor is approximately 5.5km away and unlikely to cause any impacts. Development at Pouchen End and Gadebridge North would require new road infrastructure and highway works, such as the Northern Bypass and links to the A41.

Recommendations for Growth and Other Developments

If the Hemel Hempstead Northern Bypass were to be built then this would have an impact on air quality in the local area. Bearing in mind that only an indicative route of the bypass exists, approximate measurements suggest that the bypass would pass within 2.5km of the SAC. Coupled with development to the west of Hemel Hempstead at Pouchen End and Gadebridge North, this may increase tourist pressure and/or air pollution effects on the south eastern tip (Frithsden area) of the Chilterns Beechwoods SAC. If greenfield development to the west of Hemel Hempstead is of sufficient size and closeness to adversely affect the integrity of the SAC, i.e. degrading the extensive tract of *Asperulo-Fagetum* beech forests, the primary reason for SAC site selection, a separate Appropriate Assessment may need to be carried out on this development.

5 In-combination Effects

5.1 *Introduction*

A complete list of plans and programmes that were studied for the purposes of this AA screening are listed in Appendix 1. It was considered that there were no international or national plans of particular relevance to the Dacorum Issues and Options or the Chilterns Beechwoods SAC. However, certain key plans of neighbouring districts and regional plans that are particularly relevant to examine for in-combination effects on Dacorum's Issues and Options are listed below.

5.2 *Analysis of Local (District) level plans*

5.2.1 *Analysis of St Albans CSIOP*

The following question was considered to have potential indirect consequences for the Chilterns Beechwoods SAC in terms of increased air pollution from traffic:

a)

Long term strategic policy 2: Housing Land Supply

Green belt options for housing development

Question 17: *If there was a proven need to release some land from the Green Belt to meet the District's housing requirements, which of the following options would you support:*

- a) Concentrating housing on large new developments (400 or more homes) in the Green Belt on the edge of existing settlements.
- b) Housing development through minor adjustments to the Green Belt on the edge of St Albans. Harpenden (and possibly London Colney).
- c) Housing through minor adjustments to the Green Belt on the edge of the large villages in the District.

The possible environmental outcomes of Option 17(a) for the District (possibly affecting the Chilterns Beechwoods SAC in the future) are:

- loss of habitat and biodiversity through additional land-take (on previously undeveloped land) for new housing development and associated possible future expansion of transport network;
- habitat fragmentation and reduced landscape connectivity from housing development and possible future expansion of transport network
- increased disturbance from light, activity and noise from the temporary construction works and longer-term urbanisation affecting wildlife;

- increased air pollution from construction works and increased transport emissions affecting species and plant communities sensitive to air quality, such as beech trees and epiphytes.

As a precautionary measure, to prevent development on previously undeveloped land in the Green Belt, which could lead to the above direct and indirect environmental impacts on the SAC, it was recommended in the St Albans AA Screening Report that Option 17a) should not be pursued.

b) Employment Land Options in St Albans District

Question 21: With regard to commuting, would you support any of the following options?:

Option 21 (a): Seeking to keep out-commuting from St Albans District at about the current level (net out-commuting of about 10,000 people)

Option 21 (b): Seeking to reduce net out-commuting, by providing more employment land in the District

Option 21(c): Seeking to increase net out-commuting, by meeting the need for new employment land outside the district

Recommendation

As a precautionary measure, in order to reduce commuting distances and hence reduce traffic and air pollution and the need for new road building, it was recommended in the St Albans AA Screening Report that Option 21(c) should only be pursued under certain circumstances (described in the St Albans AA screening report).

5.2.2

Analysis of the Three Rivers CSIOP

Analysis of the Three Rivers District Council Core Strategy Issues and Options paper 'Planning your Future' does not reveal any potentially significant impacts on the Chilterns Beechwoods SAC. Proposed development sites are not in close proximity to the site. Options for transport network improvements are also not close to Chilterns Beechwoods.

5.2.3

Analysis of Wycombe Development Framework AA of CS and Site Allocations Preferred Options

No in-combination effects were found. However, The Appropriate Assessment of Wycombe Development Framework Site Allocations, gave some useful guidance regarding the use of a buffer zone, that had been developed with the help of Natural England.

5.3

Analysis of Strategic Plans

The following strategic plans were considered to be of key importance to Dacorum's Issues and Options:

- Draft East of England Plan/ Appropriate Assessment of Draft East of England Plan
- Draft South East Plan/ Appropriate Assessment of Draft South East Plan
- Bucks County Council Appropriate Assessment of Waste Development Plan Document Issues & Options and Preferred Options
- South Bucks Core Strategy Preferred Options Development Plan Document/ Appropriate Assessment of South Bucks Core Strategy Preferred Options Development Plan Document
- Hertfordshire Local Transport Plan
- North Hertfordshire DC Policies Options Paper
- Luton and South Bedfordshire Issues and Options Paper
- Milton Keynes & South Midlands Sub-Regional Strategy (MKSMSRS)

- Hertfordshire Minerals Local Plan Review, Appropriate Assessment Draft Screening Report
- Hertfordshire Waste Development Plan Documents/ Appropriate Assessment Screening for the Hertfordshire Waste Developments
- Report on the Likely Significant Effects of Proposed Waste Sites on SACs/ SPAa in Buckinghamshire and Surrounding Area (Stage 1 Appropriate Assessment Screening)

5.3.1

Draft East of England Plan

a) Housing Provision

The draft East of England Plan¹³ shows the following housing provision statistics for Hertfordshire:

Table 8: Housing provision in Hertfordshire

COUNCIL	MINIMUM DWELLING PROVISION, 2001 TO 2021 (NET INCREASE, WITH ANNUAL AVERAGE RATES IN BRACKETS)		
	Total to build April 2001 to March 2021	Of which already built April 2001-March 06	Minimum still to build April 2006 to March 2021
Dacorum	12,000	1,860 (370)	10,140 (680)
St Albans	7,200	1,830 (370)	5,370 (360)
Three Rivers	4,000	1,010 (200)	2,990 (200)
Watford	5,200	1,410 (280)	3,790 (250)
Total 4 councils	28,400	23,590 (1220)	22,290 (1490)
Total Herts (including other districts)	83,200	17,480 (3,500)	65,720 (4,380)

¹³ The Secretary of State's Proposed Changes to the Draft Revision to the Regional Spatial Strategy for the East of England and Statement of Reasons, December 2006.

b) Employment Provision

Although the draft East of England Plan shows housing growth statistics for the area covered by the four councils, there will be no major expansion of employment sites in the region. Instead, Ipswich, Colchester, Harwich, Felixstowe and Clacton are to be the strategic centres of employment in the East of England, meaning development pressure for employment sites is significantly far away from the Chilterns Beechwoods SAC to not cause any negative impacts. However, Policy E1 (Job Growth 2001-2021) of the East of England Plan shows an indicative target in net growth of employment in the Hertfordshire London Arc (Three Rivers/Watford/Hertsmere/Broxbourne/Dacorum/St Albans/Welwyn Hatfield) as 50,000 jobs. This job growth poses no anticipated significant adverse impacts on Chilterns Beechwoods SAC. Similarly, although 22,290 houses are to be built in the area of the four councils, the development sites are not sufficiently close to cause significant impacts on Chilterns Beechwoods and SAC.

c) Development in South Bedfordshire and South Buckinghamshire (East of England Plan)

The housing requirement for South Bedfordshire (Luton, Dunstable, Houghton Regis and Leighton Linlade) as given in the Milton Keynes and South Midlands Sub-Regional Strategy (described separately below), is 26,300 homes up to 2021, and an additional 1000 dwellings outside of these four sub-regions, as described in the draft East of England Plan. However, the South Bedfordshire Core Strategy, by adhering to the Milton Keynes and South Midlands Sub-Regional Strategy, proposes that development should “focus on two areas of search which would exclude the Chilterns Area of Outstanding Natural Beauty.” The overall housebuilding target for South Buckinghamshire, as set out in the Draft South East Plan is set at 1350 dwellings between 2006 and 2021 and is also unlikely to affect the Chilterns Beechwoods SAC.

d) East of England Regional Transport Strategy (East of England Plan)

As a whole the strategy is aimed at reducing the need to travel. Some of the objectives of the strategy are listed in the fuller description of the strategy in Appendix 1. However, some objectives do contain schemes that are likely to have indirect impacts on the Chilterns Beechwoods SAC. For example;

Policy T1: regional transport strategy objectives	
Objective 2: 'enable infrastructure programmes and transport service provision to support both existing development (addressing problems of congestion) and that proposed in the spatial strategy (economic regeneration needs and further housing growth)'	
Schemes that may cause indirect impacts on Chilterns Beechwoods SAC	<ul style="list-style-type: none"> • M25 widening to dual 4 lanes, junctions 16-31 • M1 to dual 4 lanes, junctions 10-13

Both of the proposed schemes listed in the above table may cause an increase in accessibility to the roads that pass near to the Chilterns Beechwoods SAC, such as the A41 and A4146. However, the impacts are likely to be indirect and insignificant. There may be a small rise in visitor numbers to the SAC, yet there is no reason to believe that tourism to the site will increase overall.

5.3.2

Appropriate Assessment of Draft East of England Plan:

'Draft Revision to Regional Spatial Strategy for the East of England: Secretary of State's Proposed Changes and Further Proposed Changes. Report of the Habitats Directive Assessment (under the Habitats Regulations)' (October 2007)

Analysis of this document showed that the only Natura 2000 site in Hertfordshire which is likely to undergo a significant impact as a result of the East of England Plan is the Lee Valley SPA and Ramsar Site. Chilterns Beechwoods SAC which spans four counties (as shown in section 3.2.1) is not discussed in the document. The site is outside of the regional scope of the East of England Appropriate Assessment but is discussed in the following section, 5.3.3, as it is within the region of the South East Plan.

The Appropriate Assessment concluded that the East of England Plan would have no effects (acting alone) that would affect the integrity of Natura 2000 sites. However, it was considered that there might be in-combination effects with the South East Plan and the South Midlands Sub-Regional Strategy with respect to some Natura 2000 sites outside of Hertfordshire. As the focus of this AA

Screening Report is on Chilterns Beechwoods SAC, no in-combination effects could be identified.

5.3.3

Draft South East Plan/ Appropriate Assessment of the Draft South East Plan

- Policy H1, Housing allocations

Plans include the development of 5,620 new houses in Windsor & Maidenhead (coupled with 10,200 in South Oxfordshire and 6,600 in Wycombe). As described in the analysis of the draft East of England Plan, the house-building target for South Bucks is unlikely to affect the Chilterns Beechwoods SAC. In terms of the wider region, Milton Keynes is expected to accommodate an additional 48,850 dwellings and Aylesbury Vale, 16,800 dwellings over the period 2006-2026/14.

- Section E6: Western Corridor and Blackwater Valley Sub-region
Development planned in and around regional transport hubs such as Slough and Wycombe¹⁵ are also unlikely to cause significant impacts on the Chilterns Beechwoods SAC due to the distance between the hubs and the SAC.

- Policy WCBV2:

'Development and Environmental Protection' specifies that 'urban extensions should not involve incursions into areas protected (or proposed for protection in LDFs) by Green Belt, Areas of Outstanding Natural Beauty or by any other environmental or planning policies of regional, national or international importance.

The possible environmental impacts on the SAC are:

- The development of 5,620 new houses in Windsor & Maidenhead (coupled with 10,200 in South Oxfordshire and 6,600 in Wycombe) (Policy H1) and consequent increased traffic may cause reduced air quality. Potential pollutants identified in the Appropriate Assessment of the draft South East Plan are ammonia, Nitrous oxides, Sulphur Dioxide and Ozone. These could affect sensitive species such as beech and epiphytes.
- The South East Plan Implementation Plan demonstrates the need to provide alternative recreational space to SACs such as Chilterns

¹⁴ Figures taken from Policies MKAV 1 and MKAV 2, draft South East Plan.

¹⁵ Referring to Policy WCBV3, South East Plan.

Beechwoods. Areas of woodland enhancement near the SAC are proposed in order to provide recreational land for the increased population of the Milton-Keynes – Aylesbury Vale sub-region. The Spatial Framework for Aylesbury Vale (within the South East Plan) also specifies that proposals will *'need to provide properly resourced protection from any increased environmental impact on green infrastructure resources of significance such as the Chilterns AONB...'*

Mitigation measures, such as the areas of woodland enhancement described above, coupled with policies that provide protection for land with environmental designations should reduce any adverse impacts on the integrity of the Chilterns Beechwoods SAC from the above three policies. Although housing development may indirectly lead to a deterioration of air quality in the wider region, there are no developments contained in the draft South East Plan sufficiently close to the SAC to cause a significant adverse impact. Chilterns Beechwoods was not identified in the AA of the draft South East Plan as one of the 'European Sites at particular risk of adverse effects due to reduced air quality associated with developments under the South East Plan.'

5.3.4

Bucks County Council Appropriate Assessment of Waste Development Plan Document Issues & Options and Preferred Options Documents

The Issues and Options Document proposed Land at College Road North in Aston Clinton as a possible site for Energy from Waste. This site is approximately 5km from the Chilterns Beechwoods SAC. Appropriate Assessment screening identified that the site would not have any significant likely effects on the SAC since the airborne transmission limit for industrial pollutants was considered to be 2km. The site has since been dropped from the Preferred Options stage because of incompatibilities with a local RAF base.

However, the nature of the site was not considered to be a likely significant impact on the SAC.

5.3.5

South Bucks Core Strategy Preferred Options Development Plan Document / Appropriate Assessment of South Bucks Core Strategy Preferred Options Development Plan Document

Principal development sites listed in the DPD in section 5.4, 'Areas of Potential Change' are in Beaconsfield, Taplow and Iver. The sites are on previously developed land and are approximately 17.5km, 27.5 and 29km away from the SAC respectively.

The nature of the sites and the distance from Chilterns Beechwoods SAC, showed that there were unlikely to be any significant impacts (or in-combination effects) on the integrity of the SAC.

5.3.6

Hertfordshire Local Transport Plan (LTP) 2006/07 - 2010/11

The South West Hertfordshire Area Plan (part of the Herts LTP) and the remainder of the LTP, including the Five Year Implementation Programme which lists major schemes, contain no policies that are likely to cause harmful impacts on Chilterns Beechwoods SAC.

5.3.7

North Hertfordshire DC Policies Options Paper

Although this paper contains options on protecting biodiversity, which will clearly affect nature conservation in the district, there is no *direct* relevance to the Chilterns Beechwoods SAC as the SAC is located in South West Herts. Policies that relate to development location, such as Housing, are unlikely to have any in-combination effects; most housing development is expected to occur around Stevenage. Transport policies reflect those of the Hertfordshire Local Transport Plan, as described above and the District Council has a limited direct role in transport provision.

5.3.8

Luton and South Bedfordshire Issues and Options Paper

Two of the issues were investigated further to determine if they could affect the Chilterns Beechwoods SAC.

- Issue 1: Where will the development go?

Several of the options for new development focus on an area that will affect Hertfordshire but this will be to the north of Luton airport and is therefore a considerable distance away (greater than 21km) from the Chilterns Beechwoods SAC and consequently unlikely to cause a significant impact. Village expansion proposed for Eaton Bray, Caddington and Slip End is also a considerable distance away (greater than 8km) from the SAC and consequently unlikely to cause a significant impact.

- Issue 3: How will people travel?

It is expected that new road schemes, such as the potential Luton East Circular road are unlikely to have an impact on the Chilterns Beechwoods SAC. Improvements to the M1 may encourage further transport into the SACs region.

Development proposed in the Luton and South Bedfordshire Issues and Options Paper is a considerable distance away from the Chilterns Beechwoods SAC and is therefore unlikely to cause any harmful impacts on the site. Similarly, the improvements to the M1 are unlikely to cause any significant effects on the site as the M1 is not directly connected to major roads that pass near to the SAC, such as the A4146 and the A41.

5.3.9

Milton Keynes & South Midlands Sub-Regional Strategy (MKSMSRS), March 2005

Key locations for growth in the sub-region are:

- Aylesbury
- Bedford/ Kempston/ Northern Marston Vale
- Corby, Kettering and Wellingborough
- Luton/ Dunstable/ Houghton Regis
- Milton Keynes
- Northampton

Although growth will be concentrated in the above towns, continued growth is also planned for other towns such as Daventry and Towcester. The closest of the above settlements to Chilterns Beechwoods SAC is Aylesbury, which lies approximately 12km west of the main body of the SAC and approximately 9km west of Tring Woods. Aylesbury is expected to accommodate 15,000 new homes and the Aylesbury Vale District has an employment growth target of 12,690 new jobs. Additional growth at Aylesbury (over and above that already allocated in local plans) is expected to be 'focused entirely on Aylesbury urban area'. Aylesbury town is expected to accommodate the 15,000 new homes (up to 2021) mentioned above whereas the remainder of the district will accommodate 3,000 dwellings up to 2016. Some of this growth will likely be in the form of 'sustainable urban extensions to the north'. According to the MKSMSRS, development proposals will need to prevent any increased environmental impact on green infrastructure, such as the Chilterns AONB.

Overall it was considered that the MKSMSRS contained no policies that were likely to cause significant adverse impacts, alone or in-combination, on Chil

5.3.10

Hertfordshire Minerals Local Plan (MLP) Review, Appropriate Assessment Draft Screening Report

Overall, the impacts of the Minerals Local Plan on the Chilterns Beechwoods SAC were considered (in the MLP AA Screening Report) to be:

- Increased mineral extraction and recycling/reuse of aggregates
- Associated infrastructure requirements/traffic generation.
- After-use and changes in type and intensity of land use.

The possible environmental outcome of these policies is:

- increased transport emissions and air pollution from mineral extraction works affecting species and plant communities sensitive to air quality such as beech trees and epiphytes
- disturbance (direct and indirect) (dependent on location) from light, activity and noise from increased traffic and mineral extraction works affecting wildlife;

Potential impacts of air pollution on woodland regeneration at Epping Forest SAC and Wormley Hoddesdonpark Woods SAC were recognised in the MLP Screening Report. Increased air pollution may impact upon characteristic features of SACs, such as species assemblages (e.g. lichen) and mature trees (e.g. increased sensitivity to re-pollarding). The environmental impacts of the MLP on Chilterns Beechwoods SAC were, however, considered in the draft screening report to be minimal as they are addressed by existing Aims and Policies within the MLP. Most policies of the MLP were assessed as having ‘no impact likely’ or ‘very low potential for habitat degradation.’

5.3.11

Hertfordshire Waste Development Plan Documents/ Appropriate Assessment Screening for the Hertfordshire Waste Developments

Two waste sites were identified in the Herts Waste DPDs Appropriate Assessment Screening as having a risk of causing potentially significant impacts on Chilterns Beechwoods SAC site integrity, Bovingdon Airfield and Bourne End Mills, located 7km and 4km away from the SAC respectively. Impacts expected were from additional eutrophication and acidification at the site, causing stress to veteran trees.

The Herts Waste DPDs Appropriate Assessment Screening identifies the following “in combination” risks with other plans:

- **Air pollution and climate change:** Beech trees are especially vulnerable to air pollution. Climate change may exacerbate this vulnerability, as beech trees are susceptible to summer droughts. There is a potential risk that

other species, such as oak and ash, which are relatively less vulnerable to these threats, may begin to out-compete beech trees.

- **Critical loads:** Nitrogen and acid deposition have exceeded critical loads¹⁶ and are therefore particularly vulnerable to further increases. Planned increases in housing and employment sites in surrounding towns, such as Hemel Hempstead, Berkhamsted and Tring and the associated growth in traffic may contribute to further increases of these pollutants.

The key issue identified by Natural England¹⁶ for the purposes of this (Dacorum) Appropriate Assessment Screening is whether proposals or policies are likely to cause significant increases in pollution deposition levels at Chilterns Beechwoods SAC (i.e. cause measurable impacts). The risk would likely be low if new building developments were located further than 5km away from the SAC, although the risk would be dependent on scale. In terms of nitrogen and ammonia deposition levels, examples of possible high risk scenarios include:

- A major new point source of ammonia or nitrogen, causing an increase in background levels
- A major new development located close to the SAC, which may lead to significant additional traffic

To counter any possible air pollution impacts on Chilterns Beechwoods SAC, the following mitigation measures were provided in the Herts Waste DPDs Appropriate Assessment screening:

- Provide enough waste management sites in Hertfordshire so that the county is self-sufficient in terms of waste management, and ensure that these sites are developed for waste management. This will reduce the need to use of the A41 and A4251 heading west past the Chiltern Beechwoods SAC for waste lorries and other site traffic.
- If monitoring shows that significant quantities of waste are still being exported westward, put in place conditions that restrict the use of the A41

¹⁶ The critical load is defined as the point at which there is considered to be a risk of harmful effects. Natural England, Email communication, 5/2/2008.

and A4251 heading west past the Chiltern Beechwoods SAC by waste lorries and other site traffic.

- Avoid siting waste management facilities at Bovingdon Airfield (PS199) and Bourne End Mills (PS233) that would increase local air pollution by emitting NO_x and other acidifying compounds, i.e. incinerator, landfill, compost windrow management, gasification/pyrolysis, anaerobic digestion.

Source: Appropriate Assessment Screening for the Hertfordshire Waste Development Plan Documents: Draft report for consultation (Levett Therivel, Trewick, 2007)

In agreement with Natural England it was concluded that the impacts identified in the Herts Waste DPDs Appropriate Assessment, *if mitigated as suggested above*, would not cause any in-combination effects with Dacorum's Core Strategy Issues and Options. However, as described above, this would depend on the proximity, scale and nature of new development in the Chilterns Beechwoods area.

5.3.12

Report on the Likely Significant Effects of Proposed Waste Sites on SACs/ SPA in Buckinghamshire and Surrounding Area (Stage 1 Appropriate Assessment Screening)

The Bucks Waste Sites AA screening examined seven separate waste sites and their potential impacts on Chilterns Beechwoods SAC. However, none of the sites were considered likely to cause a significant effect on the integrity of the SAC. It was therefore concluded (in this report) that there were unlikely to be any in-combination effects with Dacorum's Core Strategy Issues and Options.

5.4

Possible Combined Impacts

It is possible that the measures proposed in some of the above plans, particularly the Dacorum/ St Albans Supplementary Issues and Options Paper (Growth at Hemel Hempstead), the draft South East Plan, the draft East of England Plan and the Hertfordshire Waste Development Plan Documents Appropriate Assessment Screening will have a combined impact on the Chilterns Beechwoods SAC in terms of bringing either people and cars (road schemes) or development closer 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.

Two key environmental in-combination impacts that could potentially cause significant effects on the integrity of the Chilterns Beechwoods SAC were identified, namely air pollution and recreation. 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. These three impacts are described below

5.4.1

Air pollution impacts

The principal pollutants of concern for Chilterns Beechwoods SAC are airborne deposits of acid and particularly nitrogen and their impact on the beechwood habitat of the SAC. As stated in section 5.3.10, beech trees are especially vulnerable to air pollution. The principal sources of nitrogen are nitrogen oxides (nitric oxide (NO) and nitrogen dioxide (NO₂), collectively known as NO_x, come from road traffic, which is responsible for approximately half the emissions in Europe. NO and NO₂ concentrations are therefore greatest in urban areas where traffic is heaviest. Other important sources are power stations, heating plants and industrial processes¹⁷.

As described in section 4.4, the following developments proposed in Dacorum's Core Strategy Issues and Options may lead to an increase in air pollution in the area surrounding the SAC:

- development at Pouchen End (3.5km away from SAC) and Gadebridge North (3km away from SAC)
- development of a Hemel Hempstead Northern Bypass (indicative distance of 2.5km away from SAC)
- various developments at Aldbury, Tring and Berkhamsted (all with closest points less than 1km away from SAC)

As the developments listed above (Pouchen End, Gadebridge North, Hemel Hempstead Bypass, Aldbury, Berkhamsted and Tring) were less than 5km from the SAC (using the indicative buffer zone described in the methodology in Table 3), they were selected as the most likely to cause significant impacts on the SAC. However, as the developments themselves are not likely to cause a significant

¹⁷ Air Pollution Sources. Source: <http://www.air-quality.net/showInformation.php?itemNo=2>, accessed on 13, 12, 08.

increase in airborne pollutant emissions, and the roads nearest to the SAC, such as the A41, A4251 and A4146, should not experience a significant increase in traffic as a result of the development, it was considered that these developments alone would not give rise to a significant impact on the SAC. Background NO_x levels, as shown in Table 9, also appear to be decreasing in the wider region. However, monitoring of the air quality status in and around the SAC may be necessary to inform whether mitigation is necessary as a precautionary measure.

There are no specifically accurate guidelines relating to airborne emissions from new housing development, roads or similar developments and how they relate to specific features on a Natura 2000 site. This is primarily due to there being too many variables involved. However, the UK Air Quality Archive provides guidance that at distances of more than 50m from a busy road, it is anticipated that NO₂ concentrations will have been diluted to the local urban background concentration. Hence, measurements made in this type of location are likely to be representative of a fairly large area, and can be reliably compared with similar locations in other urban areas.¹⁸ According to DEFRA guidelines, a significant effect from traffic-derived NO₂ is usually anticipated up to 10m from the kerb and junctions in most cases and up to 20m in major conurbations. Generally NO₂ falls down to background levels quite sharply with distance from the kerbside and should be close to background levels at a distance of 20m¹⁹.

It should be noted that both the UK Air Quality Archive and the DEFRA guidance both refer to urban areas. Judgement will, therefore, need to be applied as to likely contribution of NO_x from vehicles in rural areas such as around the Chiltern Beechwoods SAC. The variables to take into account include background pollution levels (shown in the table below), the sensitivity of the features at Chilterns Beechwoods and environmental factors such as topography & prevailing winds. Modelling of impacts can be used in some cases but Natural England advises that a precautionary approach may be the only practical option²⁰.

¹⁸ Diffusion tubes for ambient NO₂ monitoring: practical guidance for laboratories and users. Available at: http://www.airquality.co.uk/archive/reports/reports.php?report_id=499, accessed on 14,2,08.

¹⁹ DEFRA. 2003. Part IV of the Environment Act 1995, Local Air Quality Management Technical Guidance LAQM. TG (03) (Table 6.2)

²⁰ Natural England, email *pers. comm.*, 13, 2, 08.

The nearest local authority to Chilterns Beechwoods in the UK Air Quality Archive for which there are data for background NOx levels is Aylesbury Vale. This shows that background NOx levels fell between 2004 and 2005 and are projected to fall further in the period to 2010.

Table 9: Background NOx levels in Aylesbury Vale

Background NOx levels in Aylesbury Vale (ugm-3 as NO ₂ annual mean)		
2004	2005	2010 (projected levels)
14	13.4	10.83

The Design Manual for Roads and Bridges screening model for NOx pollution used in the DEFRA guidance¹⁹ assumes that there may be an environmental effect up to 200m for those roads with an Annual Average Daily Traffic Flow (AADT) of greater than 10,000 vehicles. Daily weekday travel flows for the roads closest to the SAC are shown in the following table:

Table 10: Annual Average Weekday Traffic Flows

Road name/ nearest approximate distance that road (at any point) passes SAC	Annual Average Weekday Flow	
	AAWD 2005	AAWD 2006
A4251 London Road, Bourne End (800m)	10,179	9927
A4251 Tring Road, Dudswell	8008	8550
A4146 Leighton Buzzard Road, Water End (2.5km)	11,128	12,194
A41 Long Green (1.5km)	38,227	38,475
A41 Wiggington	29,471	30,303
Source: Environment and Roads, Traffic Count Sites. Available on www.hertsdirect.org/envroads/roadstrans/transplan Accessed on 18, 02, 08.		

The A4251, A4146 and A41 had an AADT of 9,238.5 (averaged between the two points), 12, 194 and 34, 389 (averaged) respectively. All three roads are further than 200m away from the SAC, the distance where there may be environmental effects for AADTs of greater than 10,000 vehicles. Further, the traffic count for the nearest road to the SAC has decreased between 2005 and 2006 and remains less than 10,000 vehicles. Although figures for the A4146 and A41 exceed 10,000 vehicles, they are 2.5km and 1.5km away from the SAC respectively (at their very closest points).

Summary

Natural England advises²¹ that, in most cases, development proposals further than 5km away are unlikely to contribute to aerial pollution deposition. However, this is only a precautionary guide, based upon experience with actual scenarios in the vicinity of Burnham Beeches SAC and Bucks County Council Appropriate Assessment of Waste Sites DPD, where pollution deposition has been modelled or actually monitored on-site. To illustrate the precautionary nature of this approximate guide, a major new source of airborne emissions outside of a 5km zone around the SAC may still lead to potentially significant impacts.

Analysis of traffic flows and NOx emissions in the area of Chilterns Beechwoods SAC shows that there are no predictable major causes of concern in terms of NOx vehicle emission effects on the SAC. Furthermore, background NOx levels measured for Aylesbury Vale show a continuing downward trend, extrapolated to 2010. However, this issue should be kept under review, for example, by regular checks on traffic flows on the roads that pass near to the SAC.

In-combination effects with the Hertfordshire Waste Development Plan Documents

As stated in section 5.3.10, Nitrogen and acid deposition have exceeded critical loads at Chilterns Beechwoods SAC. The AA Screening Report of the Herts Waste Development Plan Documents argued that an 'increase in housing and employment space in surrounding towns such as Hemel Hempstead, Berkhamsted and Tring and the associated growth in traffic' could lead to a significant in-combination effect with the Dacorum Core Strategy Issues and Options. Two

²¹ Natural England, email *pers. comm.*, 13, 2, 08.

waste sites (Bovingdon Airfield and Bourne End Mills) were identified as having a ‘risk of in-combination effect’ with development occurring in Hemel Hempstead, Berkhamsted and Tring. However, mitigation measures were suggested in the Hertfordshire Waste DPDs Appropriate Assessment Screening (reproduced in section 5.3.10 of this report), and, *providing this mitigation is undertaken*, there should not be a significant in-combination effect with Dacorum’s Core Strategy Issues and Options.

5.4.2

Recreational impacts

Although there are no recent data to show recreational impacts on Chilterns Beechwoods SAC specifically, the Chilterns Conservation Board carried out a survey²² in 1997 that shows the nature of such impacts on the wider Chilterns AONB. Key findings include:

- An estimated 52 million leisure visits are made to and within the Chilterns AONB annually
- Eight out of ten day visits from home (81%) are by people living within and immediately adjacent to the AONB
- An estimated 77% of all visits to the Chilterns involve a car
- Walking is the most common recreational activity in the Chilterns

The survey shows that, the vast majority of visits to the AONB are made by local people. It follows that if there is further development in the region of the SAC then the number of recreational visits is likely to increase. Also, over three quarters of all visits to the area are made by car, thus increasing air pollution in and around the SAC. The combined impacts of development proposed in the Dacorum Core Strategy Issues and Options (e.g. in Berkhamsted and Tring) and development proposed in the combined Dacorum/ St Albans Supplementary Issues and Options Paper (Growth at Hemel Hempstead) could therefore lead to significant recreational impacts on the SAC unless mitigation measures are adopted. These are described in section 6.2.1.

²² Chilterns Visitor Survey, 1997. Published by the Chilterns Conservation Board.

5.4.3

Regional Water Resources

South East England is a densely populated region with low rainfall. Climate change may also cause water availability to decline in this relatively dry region²³. It has been recognised by the Environment Agency²⁴ that development in Hertfordshire area would have a negative impact on already stressed water resources.

Groundwater around Maidenhead and all of the Colne is closed to abstraction and is already over-abstracted. All other areas in the south east have resource availability statuses that are either over-licensed or no water available. Any large abstractions in this region would be detrimental to the water resources.

Unconfined Chalk aquifers (in the Thames and South Chilterns CAMS) would be in hydraulic continuity with surface water features (i.e. SSSI's & SAC's). Any large surface water and groundwater abstractions in this area that would be granted (in less stressed catchments) would probably only be given in times of high flows. Therefore, large storage reservoirs would need to be considered.

In terms of water resource impacts on Chilterns Beechwoods SAC, as stated in section 3.3.4, 'Vulnerability', the SAC is not vulnerable to water abstraction in the region. This is reiterated in the Thames and South Chilterns Catchment Abstraction Management Strategy,²⁵ where the SAC is described as being 'not considered sensitive to water abstraction'. Nevertheless, mitigation measures to counter water shortages are required on a regional basis and this subject will also be addressed in the Sustainability Appraisal/ Strategic Environmental Assessment of the Dacorum CSIOP. Mitigation measures are described in section 6.2.

²³ Environment Agency: Southern Region: Water and Development in the South East. Available on <http://www.environment-agency.gov.uk/regions/southern/1458706/?lang=en> Accessed on 2/12/07

²⁴ Environment Agency, *pers. comm.*, 2/12/07, 3/12/07.

²⁵ Water Abstraction: getting the balance right. Thames and South Chilterns Catchment Abstraction Management Strategy, March 2007.

6 Final screening assessment

6.1 *Summary of the Assessment*

Table 1 in the Non-technical Summary summarises the results of the analysis of the potential impacts of the Dacorum Core Strategy Issues and Options on the integrity of the Chilterns Beechwoods SAC, including ‘in combination’ with other plans.

6.2 *Possible mitigation measures*

Increased development in South Herts and the surrounding counties and increased accessibility to Chilterns Beechwoods and other SACs were not considered to lead to significant adverse impacts on Chilterns Beechwoods.

It was recommended in Table 1 that different wording could have been used in question 11 in Dacorum’s Site Allocations Issues and Options Paper. It was also recommended that development at Pouchen End and sites within the 3km buffer zones to the SAC, including at Aldbury, Berkhamsted and Tring (all approx. 500m from SAC) should be either avoided or limited in size and environmental impact and the building of a Hemel Hempstead Northern Bypass should be avoided.

If the options listed above were not adapted or avoided then appropriate mitigation works would need to be agreed with Natural England to ensure no adverse impacts on Chilterns Beechwoods SAC. However, two mitigation measures are suggested below as a precautionary measure to prevent any adverse effects from the Dacorum Core Strategy Issues and Options in the future:

6.2.1 *Recreation impacts: mitigation*

To limit the negative impacts of increased recreational use of the SAC, Dacorum Borough Council and other councils in the region could consider providing new or improving on existing ‘Suitable Accessible Natural Green Spaces’ (SANGS)²⁶. This would need to be suited to local circumstances and the reasons why the site (i.e. Chilterns Beechwoods SAC) was designated under the Habitats Directive. Table 10, below, shows a SANGS example that was created to provide protection for

²⁶ Guidelines for the creation of Suitable Accessible Natural Green Space. Natural England, 03.07.07.

breeding birds. SANGS for Chilterns Beechwoods SAC would need to consider mitigating recreational impacts that are specific to Chilterns Beechwoods SAC.

Table 11: SANGS Case Study – Thames Basin Heaths SPA

Role of Suitable Accessible Natural Green Space (SANGS): to divert visitors from visiting the Thames Basin Heath Special Protection Area (SPA).

Background

- SPA consists of 13 SSSIs comprising varied habitats. SPA was designated in 2005 under the Habitats Regulations (1994) to protect populations of three internationally threatened bird species that use the heathlands: woodlark, nightjar and Dartford warbler.
- Threats to SPA: e.g. disturbance during breeding period (February to August) by visitors, including freely roaming dogs.
- Recent survey showed that 83% of visitors to the SPA arrived by car
- Planning Policy Guidance (PPG) Note 17 requires local authorities to set green space standards locally but these should ‘include aspects of quantity, quality and accessibility’.

Mitigation

The Thames Basin Heath draft delivery plan was created to provide advice on how open space provision can ensure that any potential effect on the SPA is fully mitigated.

SANGS guidelines were created, primarily based on visitor surveys carried out at heathland sites within the Thames Basin Heaths area or within the Dorset Heathlands. Guidelines follow a checklist for ensuring the quality of the SANGs, e.g. ensuring car parking, paths, habitats, safety and circular walks are adequately catered for.

Source: based on ‘Guidelines for the creation of Suitable Accessible Natural Green Space. Natural England, 03.07.07’

6.2.2

Water resource impacts: mitigation

The following mitigation measure has been adapted from the Environment Agency's water resource planning that the Agency prepared in response to development proposed in the South East Plan²⁷:

Improved water efficiency/changing behaviour and attitude - new dwellings will need to be more water efficient in their design. Water must also be used more wisely in existing homes. Water meters can be used in existing properties and appliances can be replaced with more water efficient ones over time. The London Plan²⁸ has imposed a water use target for residential development (arrived at following extensive research for the Mayor's Water Action Framework and the Sustainable Design and Construction SPG). The target is 110 litres per person per day and is to be achieved through using water efficient fixtures and fittings, including white goods.

All counties and districts in the South East will need to consider how best to cause minimal impact on available water resources. This may include decisions on where new development should be located. Such decisions could be made in consultation with the Environment Agency and Natural England as ultimately the Environment Agency would need to issue water abstraction licenses. The mitigation measure described above is considered to be a best practice measure to be considered by Dacorum Borough Council to reduce water abstraction impacts in the wider region but is not specifically recommended to protect the integrity of the Chilterns Beechwoods SAC.

6.3

The Requirements for further AA

This screening assessment, developed in consultation with Natural England, considers that the combined impacts of the Dacorum Issues and Options, together with other relevant plans and programmes are not considered to compromise the Chilterns Beechwoods SACs' conservation objectives. Minor changes to the wording of some of the questions in the Dacorum's Site Allocations Issues and

²⁷ Environment Agency: Southern Region: Water and Development in the South East. Available on http://www.environmentagency.gov.uk/regions/southern/1458706/?lang=_e Accessed on 2/12/07

²⁸ Draft Further Alterations to the London Plan (Spatial Development Strategy for Greater London) September 2006

Options would have given more prominence to the Special Areas of Conservation (Chilterns Beechwoods) in Dacorum Borough. The biggest, if indirect, threat to the Chilterns Beechwoods SAC from within Dacorum would come from development to the west of Hemel Hempstead, development in settlements surrounding the SAC (e.g. Berkhamsted, Tring) and/ or the implementation of the Hemel Hempstead Northern Bypass and the associated increases in recreational use and air pollution damage to the SAC. In summary, the principal environmental impacts on the Chilterns Beechwoods SAC were considered to be:

- increased tourist pressure resulting in increased disturbance and noise affecting wildlife and trampling impacts affecting sapling regeneration from increased visitors;
- increased transport emissions and air pollution from increased private transport and mineral extraction works affecting species and plant communities sensitive to air quality, such as beech trees and epiphytes.

Impacts from the Issues and Options overall (including Site Allocations), however, are not seen as being significantly adverse effects and it is therefore not considered necessary to undertake a full Appropriate Assessment on the Dacorum Core Strategy Issues and Options.

The most significant in-combination impact with Dacorum's Core Strategy Issues and Options is likely to come from the implementation of activities at two of the Hertfordshire waste sites identified in the Appropriate Assessment Screening of the Hertfordshire Waste Development Plan Documents. However, mitigation measures were suggested in the Hertfordshire Waste DPDs Appropriate Assessment Screening (reproduced in section 5.3.10 of this report) and, *providing this mitigation is undertaken*, there should not be a significant in-combination effect with Dacorum's Core Strategy Issues and Options.

Any future plans that are likely to cause an increase in key impacts (i.e. recreation, air pollution) or other impacts that might adversely affect the conservation objectives of the SAC (for example, significant impacts within 5km of the SAC) may need to be examined as either an addendum to this screening report or as part of a full Appropriate Assessment.

Glossary

Core Strategy Issues and Options (CSIO).	The Core Strategy is a key part of each council's Local Development Framework (LDF). Issues and Options Papers set out possible development options (e.g. location options for new employment or residential development sites) for the council's administrative region.
Development Plan Document (DPD)	A DPD sets out development proposals for the region and mirrors the key development goals of the LDF. Examples of DPDs include the Core Strategy (as used in this report), Site Allocations and Area Action Plans.
Appropriate Assessment (AA)	An assessment of the potential impacts of a proposed plan on a Natura 2000 site, either alone or in combination with other plans
Natura 2000	A network of European-wide sites designated under the Habitats Directive (92/43/EEC), comprising Special Areas of Conservation, Special Protection Areas and Ramsar sites. Only Special Areas of Conservation are relevant to this report.
Special Area of Conservation (SAC)	SACs are designated to protect the 220 habitats and approximately 1000 species listed in Annex I and II of the Habitats Directive which are considered to be of European interest following criteria given in the directive. Each SAC has various conservation objectives.
Site of Special Scientific Interest (SSSI)	SSSIs are designated by Natural England. They underpin other nature conservation designations, such as Special Protection Areas and Special Areas of Conservation. For example, Chilterns Beechwoods SAC comprises several SSSIs. SSSIs can be of biological interest (Biological SSSIs), or geological interest, (Geological SSSIs). A minority of sites are notified for both biological and geological interest.