

Interim Habitat Regulations Assessment for the B&NES Core Strategy – assessment of Options Document

Introduction

This report sets out the first stages of a Habitats Regulations Assessment (HRA) for the B&NES Core Strategy. Specifically it assesses the Options Document (Sept 2009) to identify any options which raise concerns under the Habitats Regulation and which require plan modification. Due to the nature of the document being assessed, leading to consultation on and review of policy and area based options, it is not a full blown HRA. It focuses upon the screening for likely significant effect and the identification of plan based mitigation measures. This approach is adopted to identify issues and details that need to be addressed prior to the production of the Publication Document (B&NES Core Strategy document), effectively to identify opportunities for plan amendment and modification to ensure no adverse effects upon the integrity of any European Site. The Publication Document will be informed by the results of this assessment and will be subject to a full HRA under the Conservation (Natural Habitats &c) Regulations 1994 (as amended 2007).

This approach has been discussed and agreed informally with Natural England.

Stage 1 : Screening for likely significant effect

A sequential / systematic approach to screening for likely significant effect was applied. First a basic audit of relevant sites is presented This utilises the 13 Natura 2000 sites identified for the West of England Partnership HRA of the Joint Waste Strategy. This identified all NK2 sites within a 15km radius of the West of England area.

The main elements of the Core Strategy, including development options and policy areas are then broadly considered in terms of likely significant effect on these sites. This approach identifies those NK2 sites considered most likely to be affected by the Core Strategy Options and those which can be filtered out from further review (Appendix 1).

Broad screening

This broad brush review involved very simple consideration of the location of the NK2 sites within and adjacent to B&NES, their specific nature conservation interests and Conservation Objectives, and then the general policy areas and development allocations being proposed. This review filtered out 8 sites which were considered to be too far from the B&NES area to be at any risk of significant effect from the options being considered. Whilst none of the remaining sites would be directly affected by the options (ie no sites at threat from direct land take), they were identified as being at some potential risk from indirect effects such habitat disturbance or pollution. These 5 sites required more detailed screening.

A summary of the broad screening is provided in Appendix1.

Sites identified for detailed screening

Avon Gorge Woodlands SAC
Bath & Bradford-on-Avon Bats SAC
Chew Valley SPA
North Somerset and Mendip Bats SAC
Mells Valley SAC

Detailed screening

The 5 sites that appeared at some risk from indirect effects were then screened in greater detail against all policy areas and allocation options. Three of the five sites have very similar conservation objectives and qualifying features of relevance to this assessment, and are effectively 'Horseshoe Bat sites'. The potential issues and effects relevant to these sites are therefore similar and centre upon potential impacts to the foraging areas and flight lines associated with each designated roost site. (n.b. The habitat qualifying features of the Mells SAC and North Somerset and Mendip SACs are remote from B&NES and not considered to be at risk from any of the options under review).

Whilst the Avon Gorge Woodland SAC is habitat based and lies well outside of the district, it is very vulnerable to the effects of traffic pollution. Effectively any increase in traffic movements along the Portway is likely to cause a significant effect upon the integrity of the SAC.

The Chew Valley Lake SPA qualifies as an SPA by supporting populations of European Importance of Shoveler. Key features of importance are water levels at the lake, food availability, lack of disturbance and access to the lake.

Having considered the conservation objectives and qualifying features for each NK2 site (where available), the following issues and potential effects were identified for detailed review and investigation:

Potential Issues

- Increased recreational pressures
- Increased noise and light pollution
- Traffic generated air pollution
- Increased urban-fringe pressures (domestic cats; noise; disturbance –potentially reducing agricultural viability)
- Reduced viability and potential loss of existing agricultural landuse

Potential Effects

- reduction of habitat quality and function close to some sites (including function as foraging grounds or access ways)
- habitat loss close to some sites
- habitat fragmentation

For the 'Horseshoe Bat' sites specific attention is given to the potential for the options to adversely effect land within 4km of the designated roost sites. As outlined below these areas are considered to be crucial in terms of the provision of good foraging areas and flight lines.

The findings of this detailed screening are presented in a Likely Significant Effect Screening Matrix (Appendix2). The findings suggests that a further two site can be filtered out. These are the Mells Valley SAC and the Avon Gorge Woodlands SAC. The Mells Valley SAC is outside of the District and not considered at risk from potential impacts to key foraging grounds. The issue of potential concern was the interaction between the Mells Valley bats and the Bath & Bradford on Avon SAC. However, on further review and discussion with local experts this population interaction is not considered to be critical to the survival of either population, so any impacts to the Bath and Bradford on Avon SAC would not adversely effect the Mells Valley SAC. As a consequence the Mells site is not considered at risk.

The Avon Gorge Woodlands also lies outside of the District and would be at risk if the Core Strategy led to increased in traffic movements along the Portway. However, Travel to Work data from origin and destination analysis (2001 Census) indicates that this is not likely.

The detailed screening has however identified some areas of concern that need to be addressed or investigated further for the 3 remaining NK2 sites.

Areas of concern identified from the Core Strategy Options Document (Sept 09 version)

The screening has identified 3 areas of concern. One relates to the promotion of specific development types within the B&NES area, but with no specific spatial allocation (Gypsies, travellers and travelling show people; minerals; renewable energy; rural diversification; re-use of historic buildings). Given that these developments types could be located anywhere there is some potential to adversely effect any of the 3 NK2 sites listed above. However, the issue could be overcome by appropriate Core Strategy policies to prevent harm to NK2 sites and associated features of importance (eg bat foraging areas and flight lines). It is considered therefore that this concern can be overcome by the inclusion of appropriate policy wording in the Publication Document. It is not considered adequate to rely solely upon a Nature Conservation Policy.

The second area of concern relates to transport related infra structure requirements that could potentially impinge upon NK2 sites or associated features. This is a general policy for all major developments and at this stage is very broad and difficult to assess. For the SW Bath urban extensions modelling to date indicates that no major new highway schemes will be required. Transport packages based upon public transport and improvements to existing transport corridors are the focus. More major schemes may be required in association with the South East Bristol Urban Extension, For other major developments that may come forward no details are known. Due to this uncertainty it is not possible to properly assess this policy area, a precautionary approach must therefore be adopted, and it must be assumed that a likely significant effect to NK2 sites is likely. This must be addressed during the preparation of the Publications Document, where it may be possible to impose caveats on this policy, or introduce a free-standing policy which says that any development project that could have an adverse effect on the integrity of an NK2 site will not be in accordance with the development plan.

The third area of concern relates to the potential impacts that could result from specific spatial options associated with the South West Bath Urban Extension, (including any major new infra structure) and affecting a component of the Bath and Bradford on Avon SAC.

The potential effects identified are:-

1. Light pollution affecting known flight lines and foraging areas
2. Landuse change – rural agricultural land to urban fringe and developed land
3. Increased recreational pressures and domestic pressures (pets; litter; noise etc) close to and within known foraging areas
4. Land take and habitat degradation resulting from new infra structure requirements.

Whilst these impacts could be significant there is also scope to avoid and minimise such impacts through mitigation (see detailed assessment below).

Possible in-combination effects

The following have been identified as the main plans that could act in combination with elements of the Options Document to cause a likely significant effect:-

Document	Potential issues
Bristol City Council Core Strategy	no issues identified
S.Glos Council Core Strategy	?
N. Somerset Council Core Strategy	?
Wiltshire Council LDF	?
Mendip Council LDF	?
West of England Transport Strategy – South Bristol Ring Road – no effects due to distance from NK2 sites	
West of England Waste Strategy - policy requirement to address Fullers Earths Works issue	
Strategic Flood Management Plan- policy requirement to control location	

It would appear that the most significant effects would result from any major infra structure projects within the District, and any projects outside of the District when acting in combination with the Bath Urban Extension Option SWB 2 in an unmitigated form. The likelihood, location and detail of such projects must be therefore be identified and considered.

Also a series of possible in-combination effects from the Options Document itself have been identified (see Appendix 2). The majority of these could be avoided though specific core strategy policies as noted above.

The waste recovery option at the Fullers Earth's works site has the potential to impact upon a known Greater Horseshoe Night Roost associated the Bath & Bradford on Avon SAC. Whilst acting alone the potential loss of one night roost may not affect the integrity of the SAC. However, acting in-combination with other negative impacts such as the loss of foraging areas associated with an urban extension, this could contribute to a significant adverse effect. This issue could be overcome however by a policy requirement to retain or replace the roost if this site was developed, and so could be addressed within the Publications Document.

Summary of detailed screening

The detailed screening has identified the following:

- 1) Specific policy elements of the Options document could result in likely significant effects to the Bath and Bradford on Avon Bat SAC., the North Somerset and Mendip Bats SAC and the Chew Valley SPA. However inclusion of appropriate policy wording within the Submissions Document would avoid this outcome.
- 2) Policy elements for infra structure are not sufficiently detailed to enable full consideration of potential impacts. A precautionary approach is required, and it must be concluded that this element of Options document could result in likely significant effects NK2 sites in B&NES. It may be possible to impose caveats on this policy, or introduce a free-standing policy which says that any development project that could have an adverse effect on the integrity of an NK2 site will not be in accordance with the development plan.
- 3) The specific site allocation SWB Option 2 could result in a likely significant effect to the Bath and Bradford Bat SAC. It may be possible to modify the Options and or include mitigation measures within the Publication document to avoid this outcome. This is considered in more detail below.

Scope for measures to avoid, cancel or reduce the effects on the Bath and Bradford on Avon SAC within the Publication Document

The Bath & Bradford SAC is comprised of 4 distinct stone mine zones that are distributed over quite a wide geographical area. Each are SSSIs in their own right and have distinct bat interests and conservation objectives. The Combe Down and Bathampton Down Mines SSSI component, (itself a multi-component site), lies wholly within B&NES, and most of the SSSI components of this part of the SAC are within 4km of SWB option 2.

Most guidelines for the protection of Greater Horseshoe bats identifies a 4km zone around main roost sites as key for foraging and colony success (English Nature 2000). As noted by Ransome (2009), "Greater Horseshoe Bats generally commute from their roosts to foraging areas within 3 to 5 km of their roosts in mid summer. In spring and autumn they travel much shorter distances, generally less than 1km. Lesser Horseshoes forage very close to their roosts, and even spend much of their time foraging around mine entrances. The distances they travel in summer seem to be in the range of 2 -3 km (Schofield 1996)".

Significant land use changes, or loss or fragmentation of foraging, within the 4km area could therefore have a significant effect upon the integrity of this SAC component, affecting both SAC Conservation Objectives.

The other components of the SAC are more than 4km from the SAC, and are not considered to be at significant risk from the Options Document.

The allocation of the SWB urban extension option 2 could result in the following effects :-

1. Light pollution affecting known flight lines and foraging areas
2. Landuse change – rural agricultural land to urban fringe and developed land

3. Increased recreational and domestic pressures close to and within known foraging areas
4. Land take and habitat degradation resulting from new infra structure requirements.

Each effect could compromise access to good quality foraging areas, unless appropriate mitigation strategies can be identified, and incorporated, into the Submissions Document.

The bat colonies of this component of the SAC have been studied in great detail over many years. The population dynamics of the SAC and use of neighbouring land for foraging by Horseshoes Bats are therefore well understood, particularly for Greater Horseshoe bats. It is possible therefore to assess the likelihood of the SWB Option 2 having significant effects upon the integrity of the SAC and also to consider mitigation approaches that could be used to avoid significant effects.

Detailed Horseshoe bat foraging studies commissioned to inform this HRA (Ransome 2008, 2009), and previous radio tracking studies (Billington 20000) have identified key areas of importance to foraging horseshoe bats. This, together with findings of the Batscape Project (2004-7) has enabled a draft map of key Horseshoe Bat Foraging Corridors to be identified (see map1). Also specific habitat features of importance to foraging Horseshoe bats have been identified including features associated with the boundary of the SWB option 2. This particular feature comprises a young ash plantation (10-12 years) that was found to be a key foraging area for both lesser and greater horseshoe bats during the summer 2008 and spring 2009. This occurs at the edge of the Option area. In principle this could be retained as part of any development and managed to achieve favourable foraging conditions. Lighting is potentially also an issue but could be controlled by detailed site design, and careful master planning.

It would be harder to mitigate against the influences of domestic pressures (including pet issues; uncontrolled litter and waste disposal; noise and potential mis-treatment of key habitat features) associated with urban edge encroachment, together with the indirect effects of increased recreational use on habitat quality.

However, at present it is considered that the main factor affecting the conservation objectives of this SAC component relate to the use of the site as a maternity roost for Greater Horseshoe bats and the bats access to good quality foraging grounds . At present access to good quality foraging grounds is limited at critical times, (spring and late summer). This issue is exacerbated during poor climatic conditions (cold springs wet summers) such that the breeding success in this colony is often compromised when compared with comparable SAC sites elsewhere (e.g.. at Woodchester where birth dates can be up to 3 weeks earlier, with significantly better breeding success). This is a very serious situation that could be markedly improved if land close to the Combe Down and Bathampton Down Mines SSSI was managed specifically for foraging Greater Horseshoe bats.

This is probably *the* most significant conservation issue affecting this component of the SAC. However, it is an issue that could be positively addressed by the allocation and development of a "Bat Conservation Area" close to the Combe Down and Bathampton Down Mines SSSI, associated with the implementation of favourable management prescriptions funded in whole or in part by development led contributions. The preferred area would be Horsecombe Vale, just to the south east of SWB option 2. If this was secured through the Core Strategy as part of the green infrastructure required for SWB Option 2 , the option is considered unlikely to adversely affect the integrity of the SAC.

Conclusions

There are a number of policy areas that need amendment to ensure NK2 sites are not adversely affected.

The Infra Structure Policy could result in an adverse impact upon the integrity of the Bath and Bradford on Avon SAC. There is insufficient information on the likely outcome of this policy framework to judge scope for mitigation. It is essential that details are clarified and measures to protect the SAC are identified within the Submissions Document.

The SWB urban extension option 2 has the potential to adversely affect the integrity of the Bath and Bradford on Avon SAC. It is considered that there may be scope for mitigation to be secured within the Core Strategy as part of the development requirements for this option. This would need further study and work. In the absence of adequate mitigation this option would be difficult to pursue.

Specific issues to address during the production of the Publication Document :-

1. Policy provision for Gypsies, travellers and travelling show people; minerals; renewable energy; rural diversification; re-use of historic buildings, to avoid harm to NK2 sites
2. Greater clarity on infra structure requirements of the Core Strategy and provision of policy to avoid harm to NK2 sites
3. Policy requirement to retain or replace the roost site at the Fullers Earths Works site if the site is allocated for development.
4. Clarity about any major developments close to the B&NES boundary that could impact upon the Bath & Bradford on Avon SAC.
5. Viability of securing a Bat Conservation Zone close to the Combe Down and Bathampton Mines component of the Bath and Bradford on Avon SAC as part of the Green Infra Structure requirements of the SWB option2.
6. Securing mitigation principles through the wider development principles for the SWB option2.

References

English Nature (2000) Managing landscapes for the greater horseshoe bat

Ransome (2009) Bath Urban Surveys: Dusk Bat Surveys for horseshoe bats around south-western Bath. Assessments Summer 2008 & Spring 2009

Appendices

Appendix 1: Habitats Regulations - Broad Scoping Matrix.

Appendix 2: Detailed scoping matrix of Likely Significant Effect

Maps

Map 1 : Draft Greater Horseshoe Bat Foraging Corridors

Appendix 1: Habitats Regulations - Broad Scoping

NATURA 2000 SITE NAME	QUALIFYING FEATURES	CONSERVATION OBJECTIVES SUMMARY	Scope for effects to occur	Reasons
Avon Gorge Woodlands SAC	<p>Annex I Habitats that are a primary reason for selection:</p> <p><i>Tilio-Acerion</i> forests of slopes, screes and ravines</p> <p>Annex I Habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>)</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, the <i>Tilio-Acerion</i> forests of slopes, screes and ravines; Semi-natural dry grasslands and scrubland facies on calcareous substrates.	possible	Possible air pollution issue if urban extensions generate traffic movements along the Portway. Effects feasible due to configuration of gorge and road.
Bath & Bradford-on-Avon Bats SAC	<p>Annex II species that are a primary reason for selection of the site:</p> <p><i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat)</p> <p><i>Myotis bechsteinii</i> (Bechstein's bat)</p> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site:</p> <p><i>Rhinolophus hipposideros</i> (Lesser horseshoe bat)</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat), <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat) and <i>Myotis bechsteinii</i> (Bechstein's bat).	likely	Possible impacts upon bat foraging grounds
Chew Valley SPA	Internationally important bird assemblage. This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: Over winter: <i>Anas clypeata</i> (Shoveler)	No significant decrease in relation to water reference level. No significant displacement of birds attributable to human disturbance. No significant reduction in presence and abundance of food species including aquatic plants and aquatic invertebrates.	possible	Possible issues related to wind turbines if migratory routes affected
Mells Valley SAC	<p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <p>Semi-natural dry grasslands and scrubland facie: on calcareous substrates (<i>Festuco-Brometalia</i>)</p> <p>Caves not open to the public</p> <p>Annex II species that are a primary reason for selection of the site:</p> <p><i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat)</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, the Caves not open to the public and Semi-natural dry grasslands. And, to maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat).	possible	Horshe Bats from Mells are known to forage within B&NES (Bob Corns pes com 2009), also Geof Billingtons report identified a link between the BBA SAC bats and the Mells SAC. Further information needed to assess likelihood of any knock on effects.
Mendip Limestone Grasslands SAC	<p>Annex I habitats that are a primary reason for the selection of the site:</p> <p>Semi-natural dry grasslands and scrub facies on calcareous substrates (<i>Festuco-Brometalia</i>)</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <p>European dry heaths</p> <p><i>Tilio-Acerion</i> forests of slopes, screes and ravines</p> <p>Caves not open to the public</p> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site:</p> <p><i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat)</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, the <i>Tilio-Acerion</i> forests of slopes, screes and ravines; Caves not open to the public; European dry heaths and Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco brometalia</i>). And, to maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat). <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat) are also included in the COs.	no	Significant distance from B&NES - no direct or indirect effects anticipated
Mendip Woodlands SAC	<p>Annex I habitats that are a primary reason for the selection of the site:</p> <p><i>Tilio-Acerion</i> forests of slopes, screes and ravines</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, the <i>Tilio-Acerion</i> forests of slopes, screes and ravines.	no	Significant distance from B&NES - no indirect effects anticipated - potential for air pollution issues from road traffic generation discounted due to opportunities for dispersal of pollutants.
North Somerset and Mendip Bats SAC	<p>Annex I habitats that are a primary reason for the selection of the site:</p> <p>Semi-natural dry grasslands and scrub facies on calcareous substrates (<i>Festuco-Brometalia</i>)</p> <p><i>Tilio-Acerion</i> forests of slopes, screes and ravines</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <p>Caves not open to the public</p> <p>Annex II species that are a primary reason for selection of the site:</p> <p><i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat)</p> <p><i>Rhinolophus hipposideros</i> (Lesser horseshoe bat)</p>	CO's are by SSSI. COs relevant to the SAC relate to Annex II species: To maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat) and <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat).	yes	Possible impacts upon bat foraging grounds

<p>River Usk / Afon Wysg SAC</p>	<p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</p> <p>Annex II species that are a primary reason for selection of the site: <i>Petromyzon marinus</i> (Sea lamprey) <i>Lampetra planeri</i> (Brook lamprey) <i>Lampetra fluviatilis</i> (River lamprey) <i>Alosa fallax</i> (Twaite shad) <i>Salmo salar</i> (Atlantic salmon) <i>Cottus gobio</i> (Bullhead) <i>Lutra lutra</i> (Otter)</p> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site: <i>Alosa alosa</i> (Allis shad)</p>	<p>COs are available from CCW.</p>	<p>no</p>	<p>Significant distance from B&NES - no direct or indirect effects anticipated</p>
<p>River Wye / Afon Gwy SAC</p>	<p>Annex I habitats that are a primary reason for the selection of the site: Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: Transition mires and quaking bogs</p> <p>Annex II species that are a primary reason for selection of the site: <i>Austropotamobius pallipes</i> (White-clawed crayfish (or Atlantic stream) crayfish) <i>Petromyzon marinus</i> (Sea lamprey) <i>Lampetra planeri</i> (Brook lamprey) <i>Lampetra fluviatilis</i> (River lamprey) <i>Alosa fallax</i> (Twaite shad) <i>Salmo salar</i> (Atlantic salmon) <i>Cottus gobio</i> (Bullhead) <i>Lutra lutra</i> (Otter)</p> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site: <i>Alosa alosa</i> (Allis shad)</p>	<p>CO's are by SSSI. These are dated 2001 and should be used with caution. COs relevant to the SAC: To maintain, in favourable condition, floating formations of water crowfoot (<i>Ranunculus</i>) of plain and sub-mountainous rivers. Also populations of atlantic salmon (<i>Salmo salar</i>), allis shad (<i>Alosa alosa</i>), twaite shad (<i>Alosa fallax</i>), bullhead (<i>Cottus gobio</i>), brook lamprey (<i>Lampetra planeri</i>), river lamprey (<i>Lampetra fluviatilis</i>), sea lamprey (<i>Petromyzon marinus</i>), white-clawed crayfish (<i>Austropotamobius pallipes</i>). Also the river adjoining land as habitat for populations of otter (<i>Lutra lutra</i>). Also contact CCW.</p>	<p>no</p>	<p>Significant distance from B&NES - no indirect effects anticipated</p>
<p>Severn Estuary cSAC, SPA and Ramsar</p>	<p>cSAC Annex I habitats that are a primary reason for the selection of the site: Estuaries Mudflats and sandflats not covered by seawater at low tide Atlantic salt meadows</p> <p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: Sandbanks slightly covered by sea water all the time</p> <p>Reefs Annex II species that are a primary reason for selection of the site: <i>Petromyzon marinus</i> (Sea lamprey) <i>Lampetra fluviatilis</i> (River lamprey) <i>Alosa fallax</i> (Twaite shad)</p> <p>SPA This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive: Over winter: <i>Cygnus columbianus bewickii</i> (Bewick's swan) Internationally important bird assemblage. This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: On passage: <i>Charadrius hiaticula</i> (Ringed plover) Over winter: <i>Numenius arquata</i> (Curlew) <i>Calidris alpina alpina</i> (Dunlin) <i>Anas acuta</i> (Pintail) <i>Tringa totanus</i> (Redshank) <i>Tadorna tadorna</i> (Shelduck)</p> <p>Ramsar Assemblage qualification: A wetland of international importance. The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl <i>Criterion 1:</i> Presence of Annex I features listed above for cSAC. <i>Criterion 3:</i> Unusual estuarine communities. <i>Criterion 4:</i> Run of migratory fish between sea and river via estuary. <i>Criterion 5/6:</i> Bird assemblages and species of international importance. <i>Criterion 8:</i> Diverse fish populations, important feeding, nursery ground and migration route.</p>	<p>cSAC & Ramsar: Note CO tables are to be completed in 2009. To maintain, in favourable condition estuaries subtidal sandbanks; intertidal mudflats and sandflats; Atlantic salt meadows; reefs. Also, to maintain in favourable condition, River lamprey (<i>Lampetra fluviatilis</i>), sea lamprey (<i>Petromyzon marinus</i>) and Twaite shad (<i>Alosa fallax</i>).</p> <p>SPA & Ramsar: To maintain, in favourable condition, habitats for and the population of Berwick's swan and populations of regularly occurring migratory species including shelduck, dunlin, redshank, European white-fronted goose. And to maintain, in favourable condition habitat for and the assemblage of wintering waterfowl.</p> <p>See above (there are no individual COs for the Ramsar designation).</p>	<p>no</p>	<p>Significant distance from B&NES - no indirect effects anticipated</p>

Wye Valley & Forest of Dean Bat Sites SAC	<p>Annex II species that are a primary reason for selection of the site: <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat)</p> <p><i>Rhinolophus hipposideros</i> (Lesser horseshoe bat)</p>	<p>CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat), and <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat). Also contact CCW.</p>	no	Significant distance from B&NES - no indirect effects anticipated
Wye Valley Woodlands SAC	<p>Annex I habitats that are a primary reason for the selection of the site: <i>Aspergo-fagetum</i> beech forests <i>Tilio-acerion</i> forests of slopes, screes and ravines <i>Taxus baccata</i> woods</p> <p>Annex II species present as a qualifying feature, but not a primary reason for selection of this site: <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat)</p>	<p>CO's are by SSSI. COs relevant to the SAC: to maintain <i>Tilio-acerion</i> forests of slopes, screes and ravines; <i>Asperulo-Fagetum</i> beech forests and <i>Taxus baccata</i> woods in a favourable condition. And, to maintain in favourable condition habitats for the population of Lesser Horseshoe Bat (<i>Rhinolophus hipposideros</i>). Also contact CCW.</p>	no	Significant distance from B&NES - no indirect effects anticipated
Somerset Levels & Moors SPA and Ramsar	<p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:</p> <p>Over winter: <i>Cygnus columbianus bewickii</i> (Bewick's swan) <i>Pluvialis apricaria</i> (Golden plover)</p> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>Over winter: <i>Anas clupeiata</i> (Shoveler) <i>Anas crecca</i> (Teal) <i>Anas penelope</i> (Wigeon)</p> <p>Ramsar Assemblage qualification: A wetland of international importance.</p> <p>The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl</p>	<p>CO's have not been requested as part of the West of England Joint Waste Core Strategy HRA.</p>	no	Significant distance from B&NES - no indirect effects anticipated

Natura 2000 sites

NATURA 2000 SITE NAME	QUALIFYING FEATURES	CONSERVATION OBJECTIVES SUMMARY	Potential Issues/ site vulnerabilities
Avon Gorge Woodlands SAC	<p>Annex I Habitats that are a primary reason for selection: <i>Tilio-Acerion</i> forests of slopes, screes and ravines</p> <p>Annex I Habitats present as a qualifying feature, but not a primary reason for selection of this site: Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, the <i>Tilio-Acerion</i> forests of slopes, screes and ravines; Semi-natural dry grasslands and scrubland facies on calcareous substrates.	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation could have an effect on this site.
Bath & Bradford-on-Avon Bats SAC	<p>Annex II species that are a primary reason for selection of the site: Greater Horseshoe bat <i>Rhinolophus ferrumequinum</i> Bechstein's bat <i>Myotis bechsteinii</i></p> <p>Annex II species present as a qualifying reason but not primary reason for site selection Lesser Horseshoe bat <i>Rhinolophus hipposideros</i></p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat), <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat) and <i>Myotis bechsteinii</i> (Bechstein's bat).	Development within 4km of the SAC could reduce the function and viability of foraging habitat
Chew Valley SPA	Internationally important bird assemblage. This site qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: Over winter: <i>Anas clypeata</i> (Shoveler)	No significant decrease in relation to water reference level. No significant displacement of birds attributable to human disturbance. No significant reduction in presence and abundance of food species including aquatic plants and aquatic invertebrates.	Shoveler - disturbance / disruption to flight paths migratory routes
Mells Valley SAC	<p>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</p> <p>Semi-natural dry grasslands and Caves not open to the public</p> <p>Annex II species that are a primary reason for selection of this site <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat)</p>	CO's are by SSSI. COs relevant to the SAC: To maintain, in favourable condition, the Caves not open to the public and Semi-natural dry grasslands. And, to maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat).	Development within 4km of the SAC could reduce the function and viability of foraging habitat
North Somerset and Mendip Bats SAC	<p>Annex I habitats that are a primary reason for the selection of the site:</p> <p>Semi-natural dry grasslands and scrub facies on calcareous substrates (<i>Festuco-Brometalia</i>)</p> <p><i>Tilio-Acerion</i> forests of slopes, screes and ravines</p> <p>Annex I habitats present as a Caves not open to the public</p> <p>Annex II species that are a primary <i>Rhinolophus ferrumequinum</i> (Greater <i>Rhinolophus hipposideros</i> (Lesser</p>	CO's are by SSSI. COs relevant to the SAC relate to Annex II species: To maintain, in favourable condition, habitats for the population of <i>Rhinolophus ferrumequinum</i> (Greater horseshoe bat) and <i>Rhinolophus hipposideros</i> (Lesser horseshoe bat).	Development within 4km of the SAC could reduce the function and viability of foraging habitat

District wide locational strategy (1/2)

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Key issues of Core Strategy	Option1: NEW DEVELOPMENT FOCUSED IN AND AROUND THE CITIES WITH A LIMITED ROLE FOR THE TOWNS AND RURAL AREAS	Option 2: NEW DEVELOPMENT LESS FOCUSED ON THE CITIES WITH A GREATER ROLE FOR THE TOWNS AND RURAL AREAS	Likely significant effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC - (most likely potential effects:impacts upon foraging habitat and flight corridors)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site.	Increased housing and employment. New infra structure requirements - A4 corridor improvements; Stage 3 of Bristol Ring Road; Bath Package; GBSTP	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	No	No	NR
Bath & Bradford-on-Avon Bats SAC - (most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Bath Urban extension, including any infra-structure improvements, including BTP; waste site allocations at Fullers Earth Works could affect a Greater Hosreshoe Bat night roost; Proposals for wind power and possible minreals sites cited.	Potential impact upon foraging grounds and night roost	Potential impact upon foraging grounds and night roost	yes	Possible if development planned in Somerset/ Wiltshire within 5km sustenance zone.	Yes - including allocation & development of a Bat Conservation Zone
Chew Valley SPA - (most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	identified with housing and employment allocations, and associated infra-structure are not close to the SPA. Proposals for wind power are cited but with policy requirement to ensure locations do not adversely effect designated sites, including	No significant issues identified	No significant issues identified	No (subject to controls on location of wind turbines)	No	NR

District wide locational strategy (2/2)

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Key issues of Core Strategy	Option1: NEW DEVELOPMENT FOCUSED IN AND AROUND THE CITIES WITH A LIMITED ROLE FOR THE TOWNS AND RURAL AREAS	Option 2: NEW DEVELOPMENT LESS FOCUSED ON THE CITIES WITH A GREATER ROLE FOR THE TOWNS AND RURAL AREAS	Likely significant effect	In combination effects	Scope for mitigation
Mells Valley SAC - (most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Minimal development proposed for Radstock & Midsomer Norton	No significant issues identified	No significant issues identified	No	No	NR
North Somerset and Mendip Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	No significant issues identified - housing and employment allocations, and associated infrastructure are not close to the SPA and no proposals for wind power are cited	No significant issues identified	No significant issues identified	No	No	NR

Location	Option1:	Option 2:
Bristol Urban Extension : dwellings / jobs	3650 / 1359	3300 / 1500
Keynsham : dwellings / jobs	1350 / 1400	1600 / 2100
Rural District : dwellings / jobs	1500 / 600	1600 /700
Midsomer Norton & Radstock : dwellings / jobs	1000 / 1050	2000 / 1890
Bath Urban Extension (dwellings)	2000	2000
Bath : dwellings / jobs	6000 / 12250	5000 / 10440

District Wide Core Policies (1/3)

Theme	Policy area	Potential issues	In-combination effects	Summary	Scope for mitigation
Climate Change (Mitigation)	Renewable Energy	Some potential for negative impacts to Bath and Bradford on Avon & North Somerset & Mendips Bat SACs (foraging areas & flight lines), and also to Chew Valley Lake SPA (flight paths) subject to detailed location of turbines	Possible in-combination effects to Bath and Bradford on Avon SAC through cumulative impacts upon flight lines and foraging areas from Bath urban extension, Infra-structure provision and any adjacent (cross boundary developments)	Potential issue to Bath & Bradford on Avon and North Somerset & Mendip SACs and Chew Valley SPA but could be controlled by renewable energy policy to include appropriate habitat protection & enhancements	High - if effective policy achieved
	Decentralised energy supply to new development	None	none	No issue	NR
	Sustainable construction & Energy Efficiency	None	None	None	NR
Climate Change (Adaptation)	Flood risk management -A Flood Risk Management Strategy in preparation, includes Strategic options & Site specific options. Strategic locations generally away from key SAC sites and foraging areas, & design solutions available to minimise impacts.	Some potential for negative impacts to Bath and Bradford on Avon SAC (foraging areas & flight lines) subject to detailed site design and location of Bath strategic sites.	Possible in-combination effects to Bath and Bradford on Avon SAC through cumulative impacts upon flight lines and foraging areas from Bath urban extension, Infra-structure provision and any adjacent (cross boundary developments)	Potential issue to Bath & Bradford on Avon SAC but could be controlled by policy for strategic sites to include appropriate habitat protection & enhancements	High - if effective policy achieved
	Sustainable Drainage Systems	None	None	None	NR
	Water conservation	None	None	None	NR
Development Growth & Infrastructure	Infrastructure Provision	Some potential for negative impacts to Bath & Bradford on Avon Bat SAC (foraging areas & flight paths) subject to specific locations	Possible in-combination effects to Bath and Bradford on Avon SAC through cumulative impacts upon flight lines and foraging areas from Bath urban extension, Flood Risk management Options and any adjacent (cross boundary) developments.	Potential issue effecting Bath & Bradford on Avon SAC - needs further investigation	Unknown
	Green infrastructure	Positive effect - from various proposals for GI	Potential benefits if habitat enhancements and benefits secured through urban extensions	Positive effect	NR

District Wide Core Policies (2/3)

Theme	Policy area	Potential issues	In-combination effects	Summary	Scope for mitigation
Development Growth & Infrastructure (cont)	Safeguarding Minerals	impacts to Bath and Bradford on Avon & North Somerset & Mendips Bat SACs (foraging areas & flight lines), and also to Chew Valley Lake SPA (flight	to Bath and Bradford on Avon SAC subject to specific location of new mineral sites, through cumulative impacts upon flight lines and foraging areas from	Bradford on Avon and North Somerset & Mendip SACs and Chew Valley SPA but could be controlled by minerals policy to include	High - if effective policy achieved
	Waste - A Joint Waste Core Strategy is being prepared and will be subject to an HRA. This will include policies and sites suitable for Strategic Recovery Facilities - sites being considered include the Fulers Earths works which is recorded as a Greater Horseshoe Bat night Roost	Potential for damage to a Greater Horseshoe Night Roost. Alone this may not affect integrity of bath and Bradford on Avon SAC.	Possible in-combination effects to Bath and Bradford on Avon SAC if roost lost, through cumulative impacts upon flight lines and foraging areas from Bath urban extension, Flood Risk Management Options,	Potential issue to Bath & Bradford on Avon SAC if Fullers Earth Works site selected and roost lost, could be avoided by requirement to safeguard or replace roost site	High - if effective policy and/or development requirements achieved
Meeting Housing Needs	Affordable housing	None- addressed within housing allocations	None	No issue	NR
	Gypsies, travellers and travelling show people	Some potential for negative impacts to Bath and Bradford on Avon & North Somerset & Mendips Bat SACs (foraging areas & flight lines), and also to Chew Valley Lake SPA (flight paths) subject to detailed location of minerals sites.	Possible in-combination effects to Bath and Bradford on Avon SAC subject to specific location of new mineral sites, through cumulative impacts upon flight lines and foraging areas from Bath urban extension, Flood Risk Management Options, Infrastructure Provision and any adjacent (cross boundary)	Potential issue to Bath & Bradford on Avon and North Somerset & Mendip SACs and Chew Valley SPA but could be controlled by policy to include appropriate habitat protection & enhancements	High - if effective policy achieved
High Quality Environments	Highest Quality Urban Design	None - potential positive effect if biodiversity enhancement included	None	No issue	NR
	Nature Conservation	Positive effect	Positive effect	Positive effect	NR

District Wide Core Policies (3/3)

Theme	Policy area	Potential issues	In-combination effects	Summary	Scope for mitigation
High Quality Environments (cont)	Landscape	Positive effect	None	Positive effect	NR
	Historic environment	Potential positive and negative impacts to Bath & Bradford SAC, and Compton Martin SAC through re-use of historic buildings	Possible in-combination effects to Bath and Bradford on Avon SAC & North Somerset and Mendip Bats SAC subject to cumulative impacts with flight lines and foraging areas impacts from Bath urban extension, Flood Risk Management Options, new minerals sites and any adjacent (cross boundary) developments.	Small potential issue to Bath & Bradford on Avon and North Somerset & Mendip SACs and Chew Valley SPA but could be controlled by policy to include appropriate habitat protection & enhancements	High - if effective policy achieved
	World Heritage Site and its Setting	None	None	No issue	NR
	City, town and local centre	None - developments within	none	No issue	NR
A Prosperous Economy	Community services and facilities	None	none	No issue	
	Community services and facilities	None	none	No issue	NR

Accessibility & Transport	Accessibility & Transport	Potential impacts to Bath & Bradford on Avon SAC through impacts to foraging sites and flight lines, subject to detail of infra structure improvements	Possible in-combination effects to Bath and Bradford on Avon SAC subject to cumulative impacts upon flight lines and foraging areas from Bath urban extension, Flood Risk Management Options, new minerals sites and any adjacent (cross boundary) developments.	Potential for indirect & cumulative impacts	Not known
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Bath Spatial Options

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	District wide Option 1 with maximum concentration in Central zone	District wide Option 1 with minimum concentration in Central zone	District wide Option 2 with maximum concentration in Central zone	District wide Option 2 with minimum concentration in Central zone	Likely significant effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC (most likely potential effects:increased pollution from increased traffic on Portway)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site ?.	SAC >10km away from city - no effects unless generating commuters to or from Portway	SAC >10km away from city - no effects unless generating commuters to or from Portway	SAC >10km away from city - no effects unless generating commuters to or from Portway	SAC >10km away from city - no effects unless generating commuters to or from Portway	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	no	NR
Bath & Bradford-on-Avon Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Small potential to effect quality of and access to foraging grounds of SAC.	Slightly higher potential to effect quality of and access to foraging grounds of SAC.	Small potential to effect quality of and access to foraging grounds of SAC.	Slightly higher potential to effect quality of and access to foraging grounds of SAC.	possible	Potential if development in Wiltshire within 4km sustenance zone.	Yes - including allocation & development of a Bat Conservation Zone
Chew Valley SPA -(most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	SAC >10km away from city - no effects	SAC >10km away from city - no effects	SAC >10km away from city - no effects	SAC >10km away from city - no effects	none	no	NR
Mells Valley SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	SAC >8km away from city - no effects	SAC >8km away from city - no effects	SAC >8km away from city - no effects	SAC >8km away from city - no effects	none	no	NR
North Somerset and Mendip Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	SAC >8km away from city - no effects	SAC >8km away from city - no effects	SAC >8km away from city - no effects	SAC >8km away from city - no effects	none	no	NR

District Wide Option 1	District Wide Option 2
8000 homes	7000 homes
12250 jobs	10500 jobs

Max Concentration
Min Concentration

Development fully focussed in Central zone
Development mainly focussed in central zone but with some wider dispersal within MOD land and /or Urban extension

South West Bath Urban Extension

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Option SWB 1 - West of Twerton	Option SWB 2- Odd Down/ South Stoke plateau	Likely significant effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC (most likely potential effects:increased pollution from increased traffic on Portway)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site ?.	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	No	None anticipated	NR
Bath & Bradford-on-Avon Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development more than 5km away (as Bats likely to fly -ie not across urban Bath). The evidence base* indicates that this is an area of very low HB activity .Likelihood of significant effects upon foraging considered low.	Development well within sustenance zone for Bath and Bradford on Avon SAC. The evidence base* indicates high levels of Horseshoe Bath activity in this general location. High likelihood of significant effect, unless clear requirements set out to mitigate effects .	Yes - unless thorough mitigation measures set out in core strategy	Effects could be worsened if significant projects planned within Wiltshire or Somerset and within 5Km sustenance zone. Development at Hicks Gate and Withchurch considered but no effects anticipated.	Yes - including allocation & development of a Bat Conservation Zone
Chew Valley SPA -(most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	No effects on migratory routes like	No effects on migratory routes likely	no	None anticipated	NR
Mells Valley SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat. Ecological link between Mells SAC and Bath & Bradford on Avon SAC not considered significant (RR pers comm).	Development more than 5Km away. No effects likely	Development more than 5Km away No effects likely	no	None anticipated	NR
North Somerset and Mendip Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development more than 5Km away. No effects likely	Development more than 5Km away. No effects likely	no	None anticipated	NR

Development considered includes Bath Package, other elements of GBSTP considered to have no effect

*Evidence Base: Billington 2000; Ransome 2008; BRERC data; Batscapes Project; aerial photographs 2005

Spatial options for Keynsham

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Option K1	Option K2	Likely effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC (most likely potential effects:increased pollution from increased traffic on Portway)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site ?.	SAC >7km away from Keynsham - no effects unless generating commuters to or from Portway	SAC >7km away from Keynsham - no effects unless generating commuters to or from Portway	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	No	NR
Bath & Bradford-on-Avon Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >5km away and not within known flight corridors or foraging areas - no effect	Development >5km away and not within known flight corridors or foraging areas - no effect	None	No	NR
Chew Valley SPA -(most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	Development >5km away and not within known flight corridors - no effect	Development >5km away and not within known flight corridors - no effect	None	No	NR
Mells Valley SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >5km away and not within known flight corridors or foraging areas - no effect	Development >5km away and not within known flight corridors or foraging areas - no effect	None	No	NR
North Somerset and Mendip Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >5km away and not within known flight corridors or foraging areas - no effect	Development >5km away and not within known flight corridors or foraging areas - no effect	None	No	NR

Option K1	Option K2
Existing commitments with limited new housing & employment provision; with Strategic Waste Recovery Site at Broadmead Lane	Existing commitments with more intensive mixed use regeneration of strategic site; with Strategic Waste Recovery Site at Broadmead Lane
1350 Dwellings	1600 Dwellings

1400 Jobs	2100 Jobs
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South East Bristol Spatial Options

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Option 1 (3300 houses)	Option 2 (3650 houses)	Likely Significant Effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC (most likely potential effects:increased pollution from increased traffic on Portway)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site ?.	SAC > 5km away from Whitchurch - no effects unless generating commuters to or from Portway	SAC > 5km away from Whitchurch - no effects unless generating commuters to or from Portway	Travel to work data from origin & destination analysis (2001 census) indicates likelihood of significant traffic movements along the Portway considered low.	No	NR
Bath & Bradford-on-Avon Bats SAC - (most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >10km away and not within known flight corridors - no effect	Development >10km away and not within known flight corridors - no effect	None	No	NR
Chew Valley SPA -(most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	Development >5km away and not within known flight corridors - no effect	Development >5km away and not within known flight corridors - no effect	None	No	NR
Mells Valley SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >15km away and not within known flight corridors - no effect	Development >15km away and not within known flight corridors - no effect	None	No	NR
North Somerset and Mendip Bats SAC - (most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >10km away and not within known flight corridors - no effect	Development >10km away and not within known flight corridors - no effect	None	no	NR

Option 1	Option 2
3300 houses within the Witchurch Area	3650 houses within the Whitchurch Area

To start any development at Whitchurch proper infrastructure must be secured up front. This will include a South East Bristol urban extension transport package (which would be public transport led and would be likely to include a new park and ride, a rapid transit extension and other highway improvements).

Midsomer Norton & Radstock

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Option 1 Completing existing commitments with limited new housing	Option 2 Increased levels of development led by regeneration	Likely Effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC (most likely potential effects:increased pollution from increased traffic on Portway)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site ?.	SAC >10km Midsomer Norton and Radstock - no effects unless generating commuters to or from Portway	SAC >10km Midsomer Norton and Radstock - no effects unless generating commuters to or from Portway	Travel to work data from origin & destination analysis (2001 census) indicates no likelihood of significant traffic movements along the Portway.	no	NR
Bath & Bradford-on-Avon Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development >5km away and not within known flight corridors or foraging areas - no effect	Development >5km away and not within known flight corridors or foraging areas - no effect	None	No	NR
Chew Valley SPA -(most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	Development >5 km away and not within known flight corridors - no effect	Development >5 km away and not within known flight corridors - no effect	None	No	NR
Mells Valley SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	Development > 5km away and not within known flight corridors or foraging areas - no effect	Development >5km away and not within known flight corridors or foraging areas - no effect	None	No	NR
North Somerset and Mendip Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	SAC>10km no impacts likely	SAC>10km no impacts likely	None	No	NR

Option 1 Completing existing commitments with limited new housing	Option 2 Increased levels of development led by regeneration
100 additional houses	1100 additional houses
1050 New jobs	1890 new jobs

Rural Spatial Options

NATURA 2000 SITE NAME	Potential Issues/ site vulnerabilities	Develop Policy on sustainable villages (Rural A)	Develop Policy on Affordable Housing (Rural B)	Develop Policy on Rural Diversification	Likely Significant Effect	In combination effects	Scope for mitigation
Avon Gorge Woodlands SAC - (most likely potential effects:increased pollution from increased traffic on Portway)	Air quality - this site suffers from traffic generated road pollution. APIS report suggest site already exceeds the critical load for woodlands. Any increase in traffic generation along Portway could have an effect on this site ?.	No negative effects anticipated	No negative effects anticipated	No negative effects anticipated	None	no	NR
Bath & Bradford-on-Avon Bats SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	No negative effects anticipated	No negative effects anticipated	Some potential to affect flight corridors subject to detailed location and change proposed	Possible	possible subject to location	High - if effective policy achieved
Chew Valley SPA -(most likely potential effects: impacts upon shoveler flight paths)	Shoveler - disturbance / disruption to flight paths migratory routes	No negative effects anticipated	No negative effects anticipated	Some potential to affect flight corridors subject to detailed location and change proposed	Possible	possible subject to location and occurrence of any plans or projects for estuary	High - if effective policy achieved
Mells Valley SAC -(most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	No negative effects anticipated	No negative effects anticipated	No negative effects anticipated	Possible	possible subject to location	High - if effective policy achieved
North Somerset and Mendip Bats SAC - (most likely potential effects:impacts upon foraging habitat and flight corridors)	Development within 5km of the SAC could reduce the function and viability of foraging habitat	No negative effects anticipated	No negative effects anticipated	Some potential to affect flight corridors subject to detailed location and change proposed	possible	possible subject to location	High - if effective policy achieved

