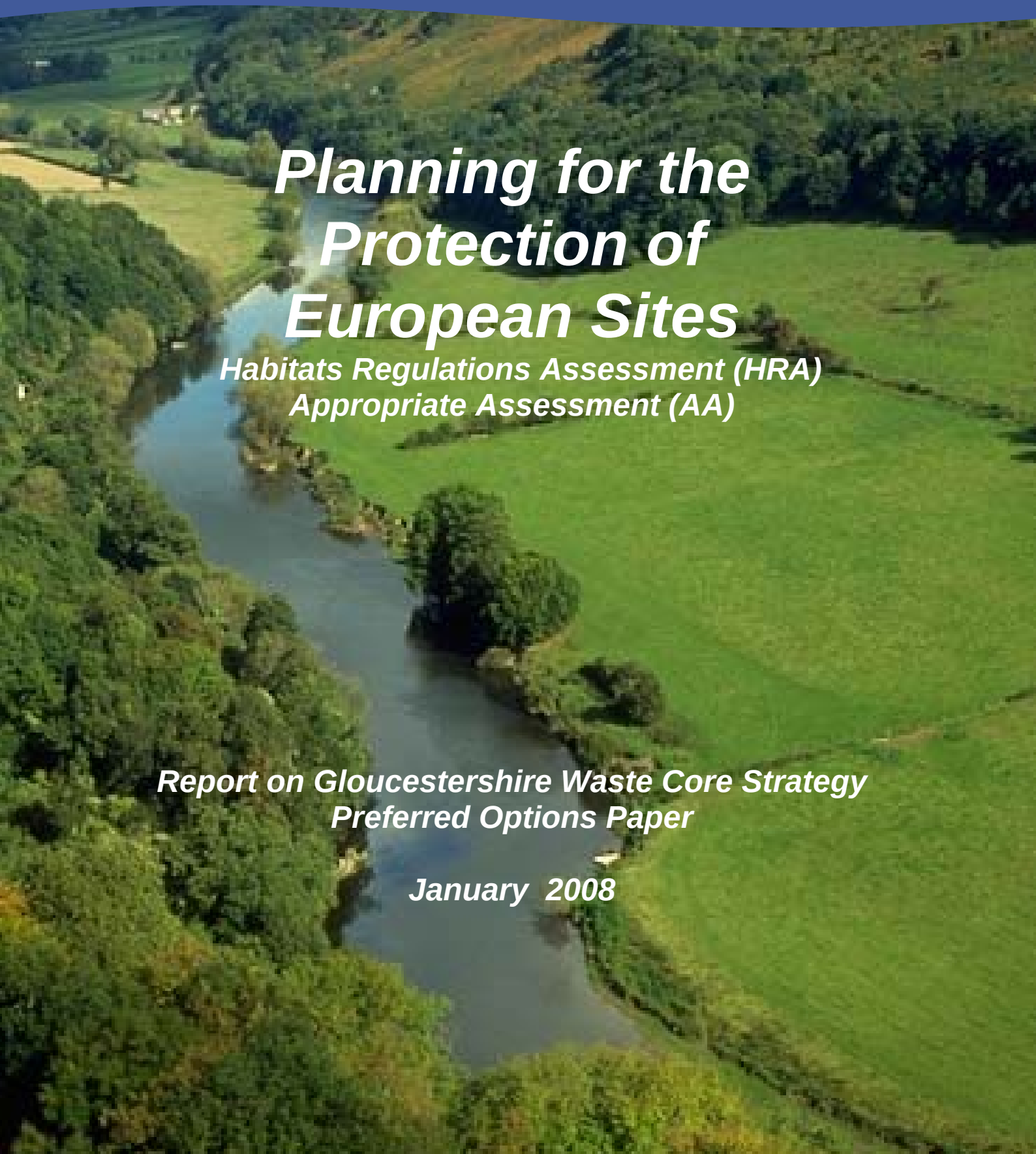
Gloucestershire
COUNTY COUNCIL



Planning for the Protection of European Sites

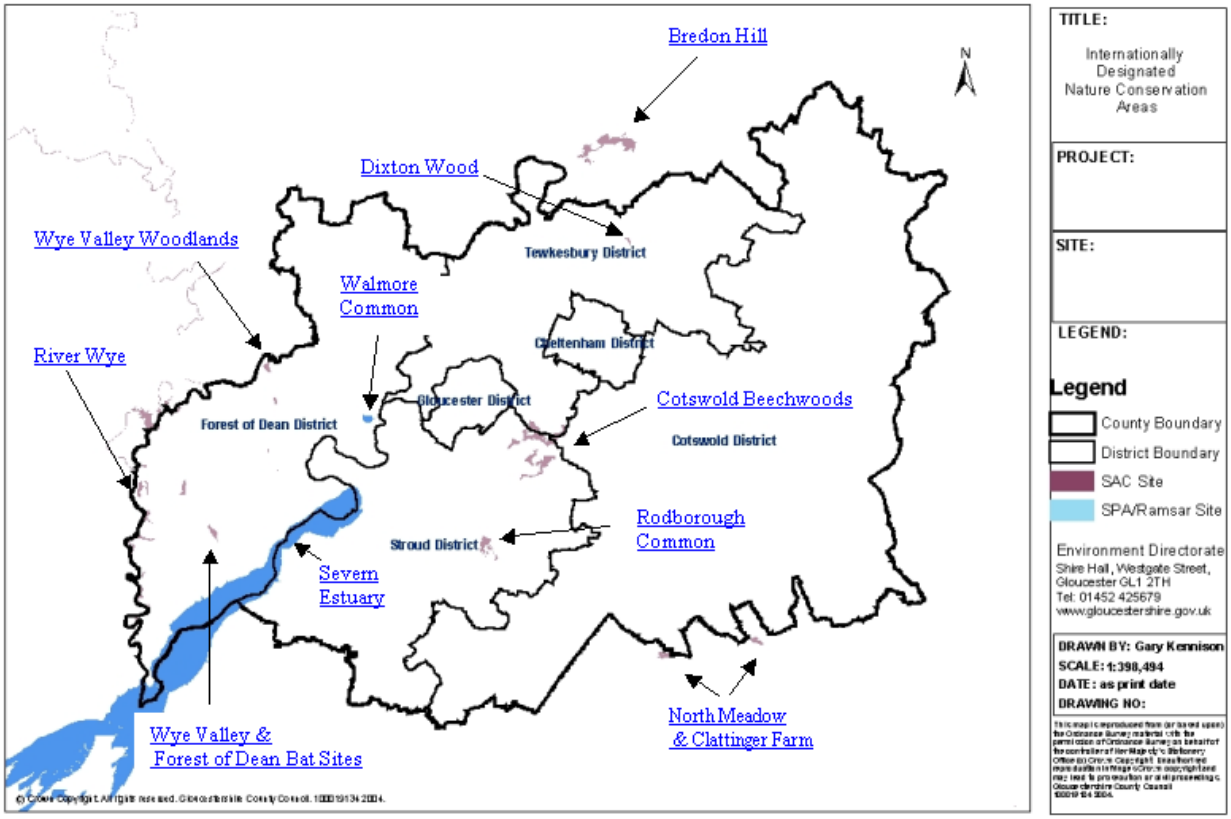
Habitats Regulations Assessment (HRA)
Appropriate Assessment (AA)

Report on Gloucestershire Waste Core Strategy Preferred Options Paper

January 2008

Gloucestershire Minerals & Waste Development Framework

European sites in and close to Gloucestershire



■ Introduction

This is the Habitat Regulations Assessment (HRA) / Appropriate Assessment (AA) report on Gloucestershire County Council's Waste Core Strategy Preferred Options Paper (January 2008). Its aim is to ensure that the options that have been put forward are screened in terms of their potential impact on protected European sites in and around Gloucestershire.

The Natura 2000 network provides ecological infrastructure for the protection of sites which are of exceptional importance in respect of rare, endangered or vulnerable natural habitats and species within the European Union. These sites which are also referred to as 'European sites' consist of Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Offshore Marine Site (OMS). Note: there are no OMS designated at present.

In brief, the European sites* in and close to Gloucestershire are:

- **Rodborough Common** SAC – (Stroud)
- **Dixton Wood** SAC – (Tewkesbury)
- **Wye Valley and Forest of Dean Bat Sites** SAC – (Forest of Dean, Monmouthshire)
- **River Wye Sites** SAC – (Forest of Dean, Monmouthshire, Herefordshire, Powys)
- **Wye Valley Woodlands** SAC – (Forest of Dean, Monmouthshire, Herefordshire)
- **North Meadow and Clattinger Farm** SAC – (Wiltshire)
- **Cotswold Beechwoods** SAC – (Cotswold, Stroud, Tewkesbury)
- **Bredon Hill** SAC – (Worcestershire)
- **Walmore Common** SPA – (Forest of Dean)
- **Severn Estuary** SPA – (Stroud, Forest of Dean)

*see figure on Page 1 and baseline report.

■ The Appropriate Assessment of land use plans

The purpose of the HRA / AA of land-use plans is to ensure that the protection of the integrity of European sites is a part of the planning process at a regional and local level. The requirement for HRA / AA of plans or projects is outlined in Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the "Habitats Directive").

■ Evidence gathering for AA & links to SA

The Gloucestershire Minerals & Waste Development Framework Sustainability Appraisal (SA) Framework (comprising the SA Context Report and the SA Scoping Report)* contains a large volume of environmental data and specifically details the sites and species protected under the Habitats Directive (92/43/EEC) and the Birds Directive (79/409/EEC).Thus the evidence gathering for the AA started with the SA Framework process.

*Original and updated reports are available at the following website address:
http://www.gloucestershire.gov.uk/index.cfm?articleid=11577

The Department for Communities and Local Government (DCLG) Draft Guidance on AA (August 2006) states on page 8 that it would be best practice to collect information for AA, especially in relation to:

1. European sites within and outside the plan area potentially affected;
2. The characteristics of these European sites;
3. Their conservation objectives; and
4. Other relevant plans or projects.

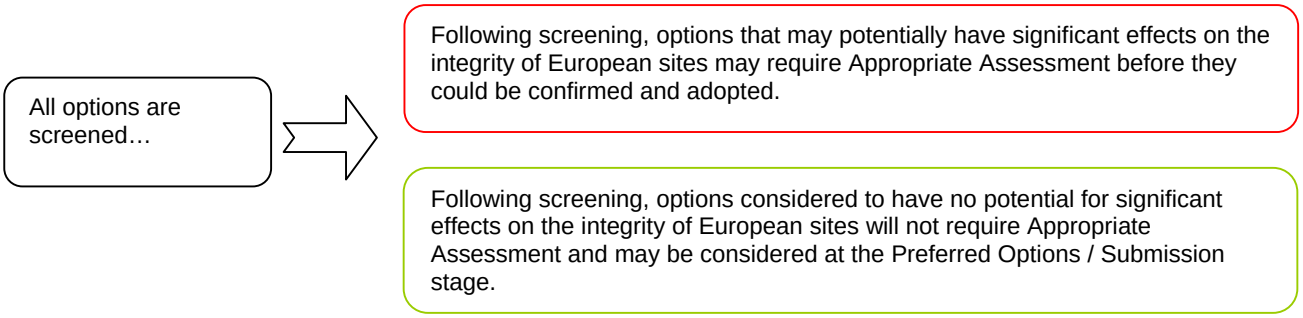
This information (Points 1 to 4) is contained in the report: *Gloucestershire Minerals & Waste Development Framework: Evidence gathering / baseline for AA* which was consulted on from 6th November to 4th December should be read in conjunction with this report. Natural England made useful comments and changes were made as a result. The report is available at the following website address: http://www.gloucestershire.gov.uk/index.cfm?articleid=11577

■ Assessing Options - AA Tasks 1- 3

It is important that the AA process informs a plan's emerging options. DCLG Guidance on AA suggests a 3 stage process in order to achieve this. The tasks are as follows:

AA Task 1: Assessing likely significant effects

This report is the AA Task 1 stage. This is basically a 'screening' exercise, with the involvement of Natural England as the statutory nature conservation body for AA.



The notion of 'significance'* needs to be assessed objectively taking particular account of the site's conservation objectives. The potential impact of options are considered in terms of probability, duration, frequency and reversibility.

*The definition of when an effect is 'significant' is prescribed to varying degrees in EU and national policies, guidelines and standards. However in many cases such definitions are general in nature (e.g. in Circular 2/99) and practitioners have been had to develop definitions and precedents for specific projects. It is broadly accepted that the significance and severity of an effect reflects the relationship between two factors: (1) The magnitude of an impact – the actual change to the environment & (2) The value of the affected resource or receptor and its sensitivity to the impact.

AA Task 2: Appropriate Assessment and ascertaining the effect on site integrity

Following the 'screening' exercise, should Natural England consider that certain options are likely to have significant effects on the integrity of European sites they will then be subject to Appropriate Assessment of the implications for European sites in view of the site's conservation objectives. The work from the evidence gathering stage and from AA Task 1 will be drawn upon in assessing options. 'Integrity' is defined in ODPM Circular 06/2005: Biodiversity and Geological Conservation as "the site's coherence, ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and or the levels of populations of species for which it was classified." The assessment at this stage should not be influenced by other environmental, social or economic issues. Decisions made by the Local Planning Authority must be supported with evidence.

AA Task 3: Mitigation measures and alternative solutions

As a result of Appropriate Assessment where an option has been found to have adverse effects, the effects should be avoided. This may mean that options are modified to some degree and will therefore have to be run through some of the SA / AA stages again. After avoidance measures have been exhausted and it is still considered that the option will potentially have negative effects on site integrity in may be necessary to drop the option. Pursuit of the option can only be justified by 'imperative reasons of overriding public interest.' and through mitigation for adverse effects.

AA Task 1: Likely significant effects

▶ Review of the test of the WCS Issues & Options

The Waste Core Strategy Issues and Options consultation took place over an eight week period between the weeks of the 17th July and the 15th September 2006. An AA Report was produced testing the options presented. A small number of stakeholders responded including the Environment Agency and Natural England (the Statutory Consultee). Their comments are recorded in the table below:

Natural England	(Note: To give context, comments are given for both minerals and waste development). 1. Appropriate Assessment of Minerals Core Strategy Natural England acknowledges the current uncertainties around mineral provision in the county and the difficulty of assessing impacts on European sites at the Issues and Options stage. This being the case we would accept the assessment of impacts on individual sites given in the Screening Report. We would look for greater clarity at the allocations stage. 2. Appropriate Assessment of Waste Core Strategy Similar comments apply to this assessment as to the Minerals Core Strategy Appropriate Assessment. One small point could be altered in Appendix 2 for the Environmental Features for the Wye Valley and Forest of Dean Bat Sites. The table states that 'bats are believed to hibernate in the many disused mine sites'. In fact this is rather more than belief as the bats have been recorded using the old iron mines as hibernacula.
Environment Agency	Thank you for consulting the Environment Agency on the Appropriate Assessment Reports for the Waste and Minerals Core Strategy Issues and Options Papers. We have no particular comments to make on the reports, other than they are clear and concise and the Appropriate Assessment process is adequately explained. However, we are concerned that we have no record of being consulted previously on the evidence gathering/baseline for the Appropriate Assessment process. Whilst we consider Natural England to be the key statutory consultee for this work due to their responsibility for European conservation sites, we would wish to be consulted on all stages throughout the Appropriate Assessment process.* We would expect designated sites, as well as biodiversity in the wider context, to be protected and enhanced. The Minerals and Waste Development Framework should deliver this. Further more we may have comments to make regarding the designated sites and biodiversity throughout the consultation process. Of particular interest to us are the River Wye Sites and the Severn Estuary, due to their connection with the water environment. As such we feel our involvement in the consultation process will add value. *GCC responded with the following email. You mentioned in your letter that you had no record of being consulted on our AA baseline report. We sent an email with the link to the document at 15:55 on the 06 November 2006. I attach the document again and please let us have any comments as necessary.

The following table highlights the uncertain results from the test of the options at Issues and Options stage. Note: there were no Likely Significant Effects recorded by the County Ecologist. This is due in part to the broad strategic nature of the options presented at Core Strategy level; the fact that the DPD is not dealing with sites and even broad areas are not clearly defined at this stage. For the full consideration of these results see Appendix 1 of the AA Report on the Waste Core Strategy Issues and Options Paper at: http://www.gloucestershire.gov.uk/index.cfm?articleid=13349

Option at Issues & Options Stage	**Score (County Ecologist)**
Issue W1: 1. The spatial Vision in the WLP.	In relation to the Severn Estuary SPA / Ramsar: Uncertain as proposal sites 3,5,6,14,15 and 20 are derived from the current WLP spatial vision.
Issue W1: 2. Proposed Vision.	In relation to the Severn Estuary SPA / Ramsar: Uncertain but No Likely Significant Effect more probable as need for AA will be determined before sites are confirmed.
Issue W3: 3. Recovering value from waste.	Uncertain for all sites.
Issue W4: 1. Business as usual approach to provision.	In relation to the Severn Estuary SPA / Ramsar: Uncertain as proposal sites 3,5,6,14,15 and 20 are derived from the current WLP spatial vision.
Issue W4: 2. Identifying sites in a DPD.	Uncertain for all sites, but No Likely Significant Effect more probable as need for AA will be determined before sites are confirmed.
Issue W4: 3. Not identifying sites – but having a criteria based policy.	Uncertain for all sites, but could be No Likely Significant Effects if screening of each development on need for AA is made part of the policy. Such screening is not particularly proactive or efficient though.
Issue W4: 4. A mixed approach.	Uncertain for all sites – see above for W4:2 & 3.
Issue W5: 1. Town locations.	Uncertain in relation to the Severn Estuary SPA / Ramsar.
Issue W5: 2. Edge of town locations.	Uncertain in relation to Rodborough Common SAC, Wye Valley & Forest of Dean Bat Sites SAC, River Wye Sites, the Severn Estuary SPA / Ramsar.
Issue W5: 3. Rural locations.	Uncertain for all sites.
Issue W5: 4. Centralised facilities.	Uncertain in relation to Rodborough Common SAC, River Wye Sites, the Severn Estuary SPA / Ramsar.
Issue W5: 5. Dispersed facilities.	Uncertain for all sites.
Issue W5: 6. A combination approach.	In relation to the Severn Estuary SPA / Ramsar: Uncertain as proposal sites 3,5,6,14,15 and 20 are derived from the current WLP spatial vision.
Issue W6: 1. Implementing the JMWMS – Business as usual approach.	In relation to the Severn Estuary SPA / Ramsar: Uncertain as proposal sites 3,5,6,14,15 and 20 are derived from the current WLP spatial vision.
Issue W6: 2. A flexible criteria based approach.	Uncertain but could be No Likely Significant Effect if screening of each development on need for AA is made part of the approach. Such screening is not particularly proactive or efficient though.
Issue W6: 3. A prescriptive approach.	Uncertain for all sites, but No Likely Significant Effect more probable as need for AA will be determined before sites are confirmed.
Issue W6: 4. A combination approach.	Uncertain for all sites – but see above for W6: 1, 2 & 3.
Issue W7a: 1. Having a policy framework against which cumulative impact can be assessed.	Uncertain for all sites without knowing where waste sites will be. Note that assessment of cumulative impact increases probability of No Likely Significant Effect.
Issue W7a: 2. Having a policy	Uncertain for all sites without knowing where waste sites will be.

framework where cumulative impacts are not a specific consideration.	Note that not considering cumulative impacts increases probability of Likely Significant Effect.
Issue W7b: 3. Business as usual - safeguarding sites.	Uncertain for all sites without knowing where waste sites will be. Note that assessment of cumulative impact increases probability of No Likely Significant Effect.
Issue W7b: 4. Not safeguarding sites.	Uncertain for all sites without knowing where waste sites will be. Note that not considering cumulative impacts increases probability of Likely Significant Effect.
Issue W8: 1. Making an appropriate contribution to local, regional and national hazardous waste management requirements - Business as usual.	Uncertain for all sites without knowing where waste sites will be.
Issue W8: 2. Safeguarding existing hazardous waste management facilities provided that they are environmentally acceptable.	In relation to the Severn Estuary SPA / Ramsar: Uncertain as applies to existing/proposed sites in the current WLP. Note that safeguarding in this way increases probability of No Likely Significant Effect of already allocated sites.
Issue W9: 1. The appropriateness of proposals for new waste management facilities in the Green Belt - Business as usual.	Uncertain in relation to the Severn Estuary SPA / Ramsar and Cotswold Beechwoods SAC.
Issue W9: 2. New waste management facilities in the Green Belt.	Uncertain in relation to the Severn Estuary SPA / Ramsar and Cotswold Beechwoods SAC.
Issue W9: 4. Redefining the Green Belt.	Uncertain in relation to the Severn Estuary SPA / Ramsar and Cotswold Beechwoods SAC.
Issue W10: 2. Policies for dealing with proposals for new waste management facilities in other nationally designated areas - Business as usual - rolling forward current policies.	No Likely Significant Effect if the WCS is read in conjunction with the RSS as this is where protection for international sites is highlighted. Approach conforms to PPS9.

The way in which the Issues & Options have fed into the Preferred Options, and why some options have been discarded is detailed in Appendix 2 in the Waste Core Strategy Preferred Options SA Report. Also a large number of Waste Technical Evidence Papers and Joint Minerals & Waste Technical Evidence Papers have also been produced, and these detail option development. The key Evidence Paper with respect to the links between the Sustainability Appraisal and AA processes, legislative requirements and biodiversity issues generally in Gloucestershire is:

Joint Minerals & Waste Technical Evidence Paper WCS-MCS - 5 Biodiversity

This report is available on-line along with the suite of other Evidence Papers accompanying the WCS Preferred Options Papers.

▶ The WCS Preferred Options

Below is the list of the Waste Core Strategy Preferred Options presented for public consultation between 31st January – 13th March 2008. As with the Issues & Options, these Preferred Options have been tested (or screened) by Gloucestershire County Council's Ecologist in terms of what impact they could potentially have on the conservation objectives of Gloucestershire's European sites. (Note: Sites in Wiltshire & Worcestershire, close to Gloucestershire's border have also be considered). The results of the screening assessment are provided in Appendix 1 of this report. Appendix 2 is a slightly different assessment. It includes information on:

▫ the Environmental features of the European sites in Gloucestershire that need to be maintained in order to maintain site integrity, the conservation objectives and the reason the site has been selected. Gloucestershire.
▫ Statements / comments on 'in combination effects'.

The information in this Appendix has been drawn from the Joint Nature Conservation Committee (JNCC) - statutory adviser to Government on UK and international nature conservation and input from Natural England in their response to Gloucestershire County Council's report: Minerals & Waste Development Framework: Evidence Gathering / Baseline for AA. This useful input from Natural England was provided in February 2007 and the updated baseline report can be viewed at:
http://www.gloucestershire.gov.uk/index.cfm?articleid=11577

WCS policy makers progressing the WCS DPD should carefully consider both Appendix 1 – the potential effects of the options presented, as well as Appendix 2 – the particular vulnerability of European sites in respect of waste development. The comments of Natural England as the statutory consultee will be key as to whether AA Task 2 and 3 (see later in this report) are required as the plan progresses.

The Waste Core Strategy Preferred Options

■ **OPTION WPO1:** *By 2026 Gloucestershire will be a clean, green, healthy and a safe place in which to live, work and visit. It will be a County whose inhabitants proactively minimise waste production to achieve zero growth by 2020 and where opportunities for re-using and recycling waste are maximised.*

■ **OPTION WPO2:** 5 Strategic objectives.

■ **OPTION WPO3A:** An option that effectively rolls forward WLP Policy 36 with a few word changes to strengthen the policy.

■ **OPTION WPO3B:** This approach is led by the principles of waste minimisation and as such provides a flexible approach to waste minimisation.

■ **OPTION WPO3C:** This approach is more rigid than the first two policy options in that it states exactly what the applicant/developer needs to provide in support of their proposals.

■ **OPTION WPO4A:** A criteria based approach on a case-by-case basis (strategic & local composting/recycling facilities).

■ **OPTION WPO4B:** Criteria for site identification in a DPD (strategic & local composting/recycling facilities).

■ **OPTION WPO4C:** A combination approach (requires two policies, one for local scale and another for strategic composting/recycling facilities).

■ **OPTION WPO4D:** An Area of Search approach (strategic & local composting/recycling facilities).

■ **OPTION WPO5A:** A policy encouraging the development of a resource economy.

■ **OPTION WPO5B:** A policy encouraging the development of a resource economy, working in partnership with other organizations.

■ **OPTION WPO6A:** A general 'recovery' policy (i.e. not process-specific) that applies county-wide. For example rolling forward the existing WLP Policy 15 taking into account the National Waste Strategy:

■ **OPTION WPO6B:** The addition of a paragraph to the end of Option WPO6a to address specific MSW requirements from the JMWMS Residual Action Plan.

■ **OPTION WPO6C:** Site Specific Approach – strategic sites will be allocated in a Waste Site Allocations DPD based on the following criteria.

■ **OPTION WPO6D:** Broad Locational Approach.

■ **OPTION WPO7A:** A broad Search Area.

■ **OPTION WPO7B:** Urban Locations & Zone C.

■ **OPTION WPO7C:** Urban Locations & Zones C2, C3 and C4.

■ **OPTION WPO7D:** Area C4.

■ **OPTION WPO8A:** Environmental Acceptability – an option derived from Waste Local Plan policies 16 and 37.

■ **OPTION WPO8B:** Environmental Acceptability – An option derived from stakeholder views through consultation with local community representatives.

■ **OPTION WPO9A:** A generic waste water infrastructure topic policy.

■ **OPTION WPO9B:** Defer policy to Development Control DPD.

■ **OPTION WPO10A:** Roll forward the existing Waste Local Plan Policy 7 into the WCS.

■ **OPTION WPO10B:** Revise the Waste Local Plan Policy 7 to reflect the outcome of recent planning decisions and the notion of 'consultation areas'.

■ **OPTION WPO11A:** Cumulative impacts could be included as part of the delivery mechanism for Strategic Objective 5.

■ **OPTION WPO11B:** A separate cumulative impact policy in the WCS.

■ **OPTION WPO12A:** Policy approach based on a combination of the proposed Issues & Options policy and stakeholder representations.

■ **OPTION WPO12B:** An option using national guidance on AONBs as set out in PPS7.

■ **OPTION WPO13A:** Policy solely for national archaeological issues.

■ **OPTION WPO13B:** No specific policy in the WCS but text in the WCS to state that waste development proposals will be determined in accordance with national policy set out in PPG15 and PPG16 for national archaeological issues.

■ **OPTION WPO14A:** No specific policy in the WCS but text in the WCS to state that waste development in the green belt is to be in accordance with PPG2 & PPS10.

■ **OPTION WPO14B:** Revise WLP Policy 35 to reflect guidance in PPS10 in relation to waste management in Green Belts.

■ **OPTION WPO14C:** A statement in the WCS requiring alterations to the defined green belt boundary, by means of appropriate 'inset' sites, to meet any specific identified need for waste management facility(s).

■ **OPTION WPO15A:** This option follows the PPS9 approach for nationally designated sites (SSSIs) but is proposed to make users of the WCS explicitly aware of the approach that the WPA will take in assessing proposals that affect such designations.

■ **OPTION WPO15B:** This option relies on national policy in PPS9.

AA Task 2: Appropriate Assessment and ascertaining the effect on site integrity

AA Task 2 will be completed should Natural England consider that (as a result of AA Task 1 and the information contained in *Gloucestershire Minerals & Waste Development Framework: Evidence gathering / baseline for AA*) the options presented are likely to have significant effects on European site integrity.

AA Task 3: Mitigation measures and alternative solutions

AA Task 3 will be completed as and when, under AA Task 2, as advised by Natural England, an option has been found to have adverse effects on the integrity of a European site.

Contacts:
If you want to comment on the contents of this report please send your comments to:

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The end date for consultation is Thursday 13th March 2008.

Appendix 1. Appropriate Assessment (AA) Screening of Gloucestershire County Council's Waste Core Strategy Preferred Options (December 2007)

KEY

CODE:	
NLSE	No Likely Significant Effect(s)
LSE	Likely Significant Effect(s) – A likely significant effect on the site's conservation objectives requiring (a) 'Dropping' of the option (b) Modification of the Option (c) Modification / mitigation of the option at a later stage through the Waste Site Allocations DPD process.
U	Uncertain - cannot determine if NLSE or LSE (see above) so may require (a) 'Dropping' of the option (b) Modification of the Option (c) Modification / mitigation of the option at a later stage through the Waste Site Allocations DPD process.

Waste Core Strategy Preferred Options	Rodborough Common (SAC)	Dixton Wood (SAC)	Wye Valley & Forest of Dean Bat Sites (SAC)	River Wye Sites (SAC)	Wye Valley Woodlands (SAC)	North Meadow & Clattinger Farm (SAC)	Walmore Common (SPA / Ramsar)	Bredon Hill (SAC)	Severn Estuary (cSAC / SPA / Ramsar)	Cotswold Beechwoods (SAC)
◆ WPO1	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO2	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO3a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO3b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO3c	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO4a	U	U	U	U	U	U	U	U	U	U
◆ WPO4b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	U	NLSE	U	NLSE
◆ WPO4c	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	U	NLSE	U	NLSE

Waste Core Strategy Preferred Options	Rodborough Common (SAC)	Dixton Wood (SAC)	Wye Valley & Forest of Dean Bat Sites (SAC)	River Wye Sites (SAC)	Wye Valley Woodlands (SAC)	North Meadow & Clattinger Farm (SAC)	Walmore Common (SPA / Ramsar)	Bredon Hill (SAC)	Severn Estuary (cSAC / SPA / Ramsar)	Cotswold Beechwoods (SAC)
◆ WPO4d	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	U	NLSE	U	NLSE
◆ WPO5a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO5b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO6a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO6b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO6c	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO6d	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO7a	U	U	U	U	U	U	U	U	U	U
◆ WPO7b	U	U	NLSE	NLSE	NLSE	NLSE	U	U	U	U
◆ WPO7c	U	U	NLSE	NLSE	NLSE	NLSE	NLSE	U	U	U
◆. WPO7d	U	U	NLSE	NLSE	NLSE	NLSE	NLSE	U	U	U

Waste Core Strategy Preferred Options	Rodborough Common (SAC)	Dixton Wood (SAC)	Wye Valley & Forest of Dean Bat Sites (SAC)	River Wye Sites (SAC)	Wye Valley Woodlands (SAC)	North Meadow & Clattinger Farm (SAC)	Walmore Common (SPA / Ramsar)	Bredon Hill (SAC)	Severn Estuary (cSAC / SPA / Ramsar)	Cotswold Beechwoods (SAC)
◆ WPO8a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆. WPO8b	U	U	U	U	U	U	U	U	U	U
◆ WPO9a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO9b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO10a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	U	NLSE
◆ WPO10b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO11a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO11b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO12a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO12b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO13a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO13b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE

Waste Core Strategy Preferred Options	Rodborough Common (SAC)	Dixton Wood (SAC)	Wye Valley & Forest of Dean Bat Sites (SAC)	River Wye Sites (SAC)	Wye Valley Woodlands (SAC)	North Meadow & Clattinger Farm (SAC)	Walmore Common (SPA / Ramsar)	Bredon Hill (SAC)	Severn Estuary (cSAC / SPA / Ramsar)	Cotswold Beechwoods (SAC)
◆ WPO14a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO14b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO14c	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO15a	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE
◆ WPO15b	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE	NLSE

Appendix 2: Environmental Features that Need to be Maintained & Statements / Consideration of 'In-Combination' Effects

European Site ⬇	**Environmental features that need to be maintained in order to maintain site integrity* / conservation objectives / reason the site has been selected** ** "..the site's coherence, ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of species for which it was classified."*	**Statement & comment on 'in-combination' effects**
Rodborough Common **Designation:** (SAC) **District:** Stroud **Grid Reference:** SO849036 **Area:** 104.26ha	Annex I habitats that are a primary reason for selection of this site: Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) Rodborough Common is the most extensive area of semi-natural dry grasslands surviving in the Cotswolds of central southern England, and represents CG5 *Bromus erectus – Brachypodium pinnatum* grassland, which is more or less confined to the Cotswolds. The site contains a wide range of structural types, ranging from short turf through to scrub margins, although short-turf vegetation is mainly confined to areas of shallower soils. **Source:** Joint Nature Conservation Committee.	European interest: dry limestone grassland. Not likely to affected by water-borne pollution or effects on the groundwater caused by mineral extraction. Waste sites if close could have an effect through increased atmospheric deposition of nitrogen. Nearby mineral workings could have an adverse effect through dust deposition. **Source:** Natural England comments (July 2006) Consideration of 'in-combination' effects: There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.
Dixton Wood **Designation:** Special Area of Conservation – (SAC) **District:** Tewkesbury **Grid Reference:** SO979313 **Area:** 13.14ha	Habitat of Annex II species that are a primary reason for selection of this site: *Violet click beetle* Limoniscus violaceus. The Violet click beetle *Limoniscus violaceus* was discovered at Dixton Wood in 1998 and it has been found at the site on a single occasion subsequently. It is a small site with large number of ancient ash *Fraxinus excelsior* pollards, and supports a rich fauna of scarce invertebrate species associated with decaying timber on ancient trees. Rare deadwood species such as the violet click beetle are mobile species which may depend on features outside of the wood for their life-cycle. These may include veteran trees beyond the boundary of the wood and hawthorn blossom for feeding. Impact on these features on the scarp slopes between Teddington and Cleeve Common may also affect the integrity of the site. **Source:** Joint Nature Conservation Committee & consultation response from Natural England – Feb 2007).	European interest: *Limoniscus violaceus* - the violet click beetle, which at this site lives in old ash trees. Ash trees like damp soil conditions, and the position of this site on the North west of the Cotswolds has ideal ground conditions. The site would be affected by mineral workings that affect soil water movements, or which cause dust deposition. Similarly the site would be affected by waste sites that led to contamination of the soil water. **Source:** Natural England comments (July 2006) Consideration of 'in-combination' effects: There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.

European Site ⬇	**Environmental features that need to be maintained in order to maintain site integrity* / conservation objectives / reason the site has been selected** * *"..the site's coherence, ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of species for which it was classified."*	**Statement & comment on 'in-combination' effects**
Wye Valley & Forest of Dean Bat Sites **Designation:** Special Area of Conservation – (SAC) **District:** Forest of Dean / Fynwy (Monmouthshire) **Grid Reference:** SO605044 **Area:** 142.7ha	Annex II species that are a primary reason for selection of this site: *Lesser horseshoe bat* Rhinolophus hipposideros. This complex of sites on the border between England and Wales contains by far the greatest concentration of lesser horseshoe bat *Rhinolophus hipposideros* in the UK, totaling about 26% of the national population. It has been selected on the grounds of the exceptional breeding population, and the majority of sites within the complex are maternity roosts. The bats are believed to hibernate in the many disused mines in the area. Greater horseshoe bat *Rhinolophus ferrumequinum* This complex of sites on the border between England and Wales represents greater horseshoe bat *Rhinolophus ferrumequinum* in the northern part of its range, with about 6% of the UK population. The site contains the main maternity roost for bats in this area, which are believed to hibernate in the many disused mines in the Forest. **Source:** Joint Nature Conservation Committee	European interest: bat species, greater horseshoe bat; lesser horseshoe bats. These sites are especially vulnerable to mineral workings that could affect the integrity of the underground network of sites used by the bats for summer or winter roosts. Damage to these underground systems even if at distance from the notified site could harm their integrity by e.g. affecting underground air flows or temperature gradients. On the surface workings could affect important flight lines or feeding areas which, although outside of the notified area, are crucial to the survival of the bat colonies. Waste sites present a risk both in habitat loss and the potential for pollutants to enter the underground systems. **Source:** Natural England comments (July 2006) <u>Consideration of 'in-combination' effects:</u> There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.

European Site ⬇	**Environmental features that need to be maintained in order to maintain site integrity* / conservation objectives / reason the site has been selected** * *"..the site's coherence, ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of species for which it was classified."*	**Statement & comment on 'in-combination' effects**
River Wye Sites **Designation:** Special Area of Conservation – (SAC) **District:** Forest of Dean / Fynwy - Monmouthshire / Herefordshire / Powys **Grid Reference:** S0109369 **Area:** 2234.89ha	Annex I habitats that are a primary reason for selection of this site: Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: Transition mires and quaking bogs Annex II species that are a primary reason for selection of this site: White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes* Sea lamprey *Petromyzon marinus* Brook lamprey *Lampetra planeri* River lamprey *Lampetra fluviatilis* Twaite shad *Alosa fallax* Atlantic salmon *Salmo salar* Bullhead *Cottus gobio* Otter *Lutra lutra* Annex II species present as a qualifying feature, but not a primary reason for site selection: Allis shad *Alosa alosa* **Source:** Joint Nature Conservation Committee	European interest: allis shad; twaite shad; white-clawed crayfish; bullhead; river lamprey; brook lamprey; sea lamprey; otter; salmon; transition mires and quaking bogs; water-crowfoot communities. Mineral workings could affect these interests by damaging side water flows into the river and associated habitats and by pollution arising from the run-off from the workings. Waste sites would be a possible pollution source. **Source:** Natural England comments (July 2006) <u>Consideration of 'in-combination' effects:</u> There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.
Wye Valley Woodlands **Designation:** Special Area of Conservation – (SAC) **District:** Forest of Dean / Monmouthshire / Herefordshire **Grid Reference:** SO530957 **Area:** 916.24	Annex I habitats that are a primary reason for selection of this site: *Asperulo-Fagetum* beech forests. The Wye Valley contains abundant and near-continuous semi-natural woodland along the gorge. Beech stands occur as part of a mosaic with a wide range of other woodland types, and represent the western range of *Asperulo-Fagetum* beech forests. Such a variety of woodland types is rare within the UK. In places lime *Tilia* sp., elm *Ulmus* sp. and oak *Quercus* sp. share dominance with the beech. Structurally the woods include old coppice, pollards	European interest: yew woods; lime/maple woods; beech woods; lesser horseshoe bats. Not likely to affected by water-borne pollution or effects on the groundwater caused by mineral extraction. Waste sites if close could have an effect through increased atmospheric deposition of nitrogen. Nearby mineral workings could have an adverse effect through dust deposition. **Source:** Natural England comments (July 2006) <u>Consideration of 'in-combination' effects:</u> There may potentially be 'in-combination' effects on the

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	and high forest types. Lady Park Wood, one of the component sites, is an outstanding example of near-natural old-growth structure in mixed broad-leaved woodland, and has been the subject of detailed long-term monitoring studies. *Taxus baccata* woods of the British Isles Wye Valley is representative of yew *Taxus baccata* woods in the south-west of the habitat's range. It lies on the southern Carboniferous limestone, and yew occurs both as an understorey to other woodland trees and as major yew-dominated groves, particularly on the more stony slopes and crags. Annex II species present as a qualifying feature, but not a primary reason for site selection: Lesser horseshoe bat *Rhinolophus hipposideros* **Source:** Joint Nature Conservation Committee	site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.
North Meadow & Clattinger Farm (Wiltshire Sites) **Designation:** Special Area of Conservation – (SAC) **District:** Wiltshire **Grid Reference:** SU014934 **Area:** 104.88ha	Annex I habitats that are a primary reason for selection of this site: Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*) North Meadow and Clattinger Farm in the Thames Valley in southern England is one of two sites representing lowland hay meadows near the centre of its UK range. As in the case of the Oxford Meadows, this site represents an exceptional survival of the traditional pattern of management and so exhibits a high degree of conservation of structure and function. This site also contains a very high proportion (>90%) of the surviving UK population of fritillary *Fritillaria meleagris*, a species highly characteristic of damp lowland meadows in Europe and now rare throughout its range.	European interest: lowland hay meadow on river valley alluvial soil. Mineral extraction in or near the site could affect groundwater levels or surface or subsurface water movements. Extraction above the site could also lead to pollution from runoff. Waste sites could pose a pollution threat, especially from nutrient enrichment. **Source:** Natural England comments (July 2006) Consideration of 'in-combination' effects: There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.

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	Source: Joint Nature Conservation Committee	
Cotswold Beechwoods **Designation:** Special Area of Conservation – (SAC) **District:** Cotswold **Grid Reference:** SO898134 **Area:** 585.85ha	Annex I habitats that are a primary reason for selection of this site: *Asperulo-Fagetum* beech forests The Cotswold Beechwoods represent the most westerly extensive blocks of *Asperulo-Fagetum* beech forests in the UK. The woods are floristically richer than the Chilterns, and rare plants include red helleborine *Cephalanthera rubra*, stinking hellebore *Helleborus foetidus*, narrow-lipped helleborine *Epipactis leptochila* and wood barley *Hordelymus europaeus*. There is a rich mollusc fauna. The woods are structurally varied, including blocks of high forest and some areas of remnant beech coppice. 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 (*Festuco-Brometalia*) **Source:** Joint Nature Conservation Committee	European interest: beech woodlands; dry limestone grasslands. Not likely to affected by water-borne pollution or effects on the groundwater caused by mineral extraction. Waste sites if close could have an effect through increased atmospheric deposition of nitrogen. Nearby mineral workings could have an adverse effect through dust deposition. **Source:** Natural England comments (July 2006) Consideration of 'in-combination' effects: There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.
Bredon Hill **Designation:** Special Area of Conservation – (SAC) **District:** Wychavon, Worcestershire **Grid Reference:** SO965406 **Area:** 359.86ha	Annex II species that are a primary reason for selection of this site: Violet click beetle *Limoniscus violaceus* Violet click beetle *Limoniscus violaceus* were recorded at Bredon Hill in 1989, although there is a 1939 record from 'Tewkesbury', which may refer to Bredon Hill. It has been found in each of several years since. It should be noted that the Violet click beetle is a mobile species. The scarp slope that begins at Cleeve Common and extends north into Worcestershire contains many veteran trees in woods and hedgerows and is an important resource for deadwood invertebrates including the Violet click beetle. Impacts on the hedgerow and veteran tree resource in this area may affect the integrity of the site. Bredon Hill is a very	European interest: *Limoniscus violaceus* - the violet click beetle. Similar issues as for Dixton Wood with respect to how the site may potentially be affected by minerals or waste development. Consideration of 'in-combination' effects: There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.

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	important site for fauna associated with decaying timber on ancient trees, including many Red Data Book and Nationally Scarce invertebrate species. Source: Joint Nature Conservation Committee & consultation response from Natural England – Feb 2007.	

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Walmore Common **Designation:** Special Protection Area (SPA) & Ramsar site **District:** Forest of Dean **Grid Reference:** SO745150 **Area:** 52.85ha	This site qualifies under Ramsar criterion 6 by supporting species/populations occurring at levels of international importance: The qualifying species/populations (peak counts in winter) is Bewick's swan *Cygnus columbianus bewickii*, 43 individuals, representing an average of 0.5% of Great Britain's population (5 year peak mean 1998/9 – 2002/3). **Source:** Joint Nature Conservation Committee.	European interest: wintering Bewick's swans. Mineral extraction in or near the catchment could affect groundwater levels or water movements. Extraction above the site could also lead to pollution from runoff. Waste sites could pose a pollution threat. **Source:** Natural England comments (July 2006) <u>Consideration of 'in-combination' effects:</u> There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.
Severn Estuary **Designation:** Candidate Special Area of Conservation (cSAC) Special Protection Area (SPA) & Ramsar site **District:** Stroud / Forest of Dean **Grid Reference:** 51 13 29N 03 02 57W **Area:** 24662.98 ha	Article 4.1 Qualification 79/409/EEC Over winter the area regularly supports: *Cygnus columbianus bewickii* (Western Siberia/North-eastern & North-western Europe) 3.9% of the GB population 5 year peak mean 1991/92-1995/96 --- Article 4.2 Qualification 79/409/EEC Over winter the area regularly supports: *Anas strepera* (North-western Europe) 0.9% of the population 5 year peak mean 1991/92-1995/96 *Anser albifrons albifrons* (North-western Siberia/North-eastern & Northwestern Europe) 0.4% of the population 5 year peak mean 1991/92-1995/96 *Calidris alpina alpine* (Northern Siberia/Europe/Western Africa) 3.3% of the population 5 year peak mean 1991/92-1995/96 *Tadorna tadorna* (North-western Europe) 1.1% of the population	European interest: 1) as SPA - wintering wildfowl (>10,000 regularly), plus important numbers of individual species Bewick's swan, European whitefronted goose, wigeon, gadwall, shoveler, pochard. 2) as cSAC – Allis shad; twaite shad; Atlantic salt meadows; estuaries; river lamprey; intertidal mudflats and sandflats; sea lamprey; reefs; subtidal sandbanks. This site is unlikely to be affected directly by on land mineral extraction but there could be significant indirect effects from changes to water flow patterns into the site. (Note : marine aggregate extraction could have implications for many of the sites features by disruption of the sedimentary systems and natural processes operating throughout the estuary). Waste sites pose a threat from pollution. **Source:** Natural England comments (July 2006) <u>Consideration of 'in-combination' effects:</u> There may potentially be 'in-combination' effects on the site as a result of other plans and projects. To be advised by consultees and further examined at the next stage of DPD preparation.

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	5 year peak mean 1991/92-1995/96 *Tringa tetanus* (Eastern Atlantic - wintering) 1.3% of the population 5 year peak mean 1991/92-1995/96 ----- Article 4.2 Qualification 79/409/EEC – An Internationally Important Assemblage of Birds Over winter the area regularly supports: 84317 waterfowl (5 year peak mean 01/04/1998) Including: *Cygnus columbianus bewickii , Anser albifrons albifrons , Tadorna tadorna , Anas strepera , Calidris alpine alpina , Tringa totanus.* **Source:** Joint Nature Conservation Committee.	

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