

where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;

- development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
- opportunities to incorporate biodiversity in and around developments should be encouraged;
- planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
- the following wildlife sites should be given the same protection as European sites:
 - potential Special Protection Areas and possible Special Areas of Conservation;
 - listed or proposed Ramsar sites;²⁶ and
 - sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

119. The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.

120. To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

121. Planning policies and decisions should also ensure that:

- the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation;
- after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and

²⁶ Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.

- 7.4.6 Country parks, such as Denham and Bayhurst Wood in the Colne Valley and Sheldon and Kingfisher in Birmingham provide a recreational as well as a landscape resource. Other important landscape settings are associated with stately homes of which there are a very large number between London and the West Midlands, particularly in the Chilterns and around the outskirts of Birmingham. These have historical as well as landscape significance.
- 7.4.7 **Future baseline:** Most of the national character areas are likely to change to small degrees. Near urban areas, particular pressures stem from expansion of settlements, new power lines, golf courses, upgrading of roads, continuing pressure for landfill and minerals extraction. In more rural areas, changes are expected from agricultural intensification, loss or deterioration of hedges, and a gradual 'suburbanisation' of the rural character⁷⁶. The growth points at Coventry and Birmingham and Solihull are likely to be particularly affected, although provisions for green infrastructure set out in local development documents could mitigate some of these impacts.

Cultural resources

- 7.4.8 The area between London and the West Midlands contains many listed buildings and conservation areas, with particular clusters in London and Birmingham city centre. Scheduled monuments are quite scarce, although remnants of the Iron Age earthworks of Grim's Ditch occur at several locations including the Chilterns, Harrow in north-west London, Berkshire and North Oxfordshire.
- 7.4.9 Registered parks do not occur in great numbers but they tend to be of substantial size. Shardeloes near Amersham is set in grounds and gardens that overlook the Misbourne valley; Hartwell House is located in countryside about 3km west of Aylesbury; and Stoneleigh Park east of Kenilworth is situated within a gap between Coventry and Leamington Spa that provides an obvious corridor for the alignment.
- 7.4.10 Listed buildings are found in greatest numbers within central London and Birmingham, particularly around the station termini, where they are within or close to conservation areas. Otherwise they are found in various locations across the area, with Grade II buildings occurring in particular abundance.
- 7.4.11 **Future baseline:** Most of the historical sites and archaeological monuments in the HS2 area are unlikely to be affected in the future due to their protected status. However, a few may be adversely affected by development pressure. An extension of the runway at Birmingham Airport would affect the Bickenhill Village Conservation Area and several archaeological features. The planned intensification of development in London, the South East and West Midlands, particularly around the more urban areas, is likely to slowly erode the quality of the historical landscape.

Biodiversity

- 7.4.12 A Habitats Regulations Assessment screening was undertaken in tandem with the options sifting process (see HRA Screening Report, *Appendix 4.1*), which identified several internationally designated sites within 10km of the various route options; chief amongst these are Chilterns Beechwoods Special Area of Conservation (SAC); Aston Rowant SAC; Burnham Beeches SAC and South West London Waterbodies Special Protection Area (SPA) and Ramsar site.
- 7.4.13 There are numerous other nature conservation sites scattered across the area, including SSSIs which occur throughout but in relatively higher densities along the western edge of the Chilterns and associated with the riverine systems around Oxford. Ancient woodlands

⁷⁶ Natural England (2009) Natural Character Areas,

are also scattered across the area but are found in greatest abundance across the Chilterns.

- 7.4.14 **Future baseline:** The condition of most of the nationally and internationally designated nature conservation sites near the proposed HS2 route is likely to remain the same or improve over the next twenty years. The integrity of international sites should be protected through the requirements of the European Habitats and Birds Directives. Almost all of the SSSIs near the proposed HS2 route are defined by Natural England as being in 'favourable' or 'unfavourable [but] recovering' condition. The only SSSIs on or near the proposed scheme whose conditions are problematic are:
- part of the Mid Colne Valley SSSI near Harefield, which is in unfavourable condition due to under-grazing;
 - Helmdon disused railway SSSI, which is in unfavourable condition, largely due to scrub encroachment into calcareous grassland; and
 - the whole River Blythe SSSI near Leamington Spa / Kenilworth, which is in unfavourable but unchanging condition due to invasive species and water pollution from agriculture/run-off and discharge.
- 7.4.15 An extension of the runway at Birmingham Airport would affect Bickenhill Meadows SSSI and Shadowbrook Lane Meadows SSSI as well as areas of more local biodiversity interest.
- 7.4.16 More generally, the biodiversity status of the area between London and the West Midlands is expected to decline slightly in the future. The sustainability appraisals of the London Plan (2004) and Regional Strategies for the South East (2006), East of England (2007 and 2009⁷⁷) and West Midlands (2007) suggest that biodiversity would be adversely affected by proposed development on greenfield land.

Water and flooding

- 7.4.17 Water quality in the river catchments which would be traversed by HS2 (shown in **Figure 22**) is variable, with some catchments particularly affected by poor water quality.
- In and near London, 23% of the rivers and lakes in the Colne catchment monitored by the Environment Agency are of good ecological status or potential. The main pressures are from groundwater abstraction, and physical modification due to urbanisation and flood protection.
 - Near Aylesbury, the Thames and South Chilterns catchment is currently significantly affected by pollution from sewage works and agricultural run-off, and physical modification from land drainage and urbanisation. Only 8% of monitored rivers and lakes achieve good ecological status or potential.
 - Near Banbury, the Cherwell catchment is affected by sewage works, agricultural run-off and drainage: 32% of monitored rivers and lakes currently achieve good ecological status or potential.
 - Around Coventry and Leamington Spa, only 11% of monitored rivers and lakes in the Warwickshire Avon catchment currently achieve good ecological status or potential due to problems with sewage discharge and diffuse (urban and agricultural) run-off.
 - Around Birmingham, the Tame, Anker and Mease catchment is heavily affected by sewage treatment works. Only 3% of monitored rivers and lakes currently achieve good ecological status or potential.

⁷⁷ An interim integrated SA has been submitted following a ruling in May 2009 by the High Court which issued a judgment that the Sustainability Appraisal of the East of England RSS had failed to test reasonable alternatives to two of its proposals, and has remitted those proposals to the Government to reconsider them.

network. We are content with this approach and will expect the developer of HS2 to adhere to it. The Secretary of State has a statutory duty under the Air Quality Standards Regulations 2010²⁴ to ensure that the limits on levels of pollution set out in the regulations are not exceeded and we are clear that this duty will be adhered to.

- 6.32** There were comments raised in consultation that the scheme might impact on aquifers. The EU Water Framework Directive 2003, which is reflected in the framework for the AoS, outlines that the Government must take all practicable steps to mitigate any adverse impact on the status of water bodies. HS2 Ltd looked at these issues, and consequently the tunnelled alignment through the Chilterns has been moved to avoid an aquifer of major importance to the local area. The Government is clear that it takes account of all relevant legislation in respect of the environment, and we would expect the developer of HS2 to further ensure that mitigation is applied to other bodies of water, where needed or practicable, to ensure compliance with the Directive.
- 6.33** Concern was raised in relation to potential impact on ancient woodlands. The Government recognises that these form an important part of our natural heritage and as such need to be protected wherever possible. The EIA process will identify in detail the true scope of any impacts and offer appropriate mitigation solutions, for example to transplant woodland to an adjacent site or to use narrower cuttings, wherever possible, to avoid unnecessary land take.
- 6.34** Consultation responses contained concerns that there would be detrimental impacts on listed buildings and scheduled monuments. Heritage assets are valuable resources that enrich the cultural and historical legacy of our country. Consequently a significant level of scrutiny was applied to heritage assets, undertaken in dialogue with English Heritage. The line of route changes that have been accepted by Government will, amongst other things, reduce impacts on important heritage assets. However, we expect further work to be undertaken to identify and, where possible, avoid or offset impacts upon heritage assets, including undesignated heritage assets and areas of archaeological potential. The EIA process will identify these heritage resources for due consideration.
- 6.35** The Government has a duty to consider whether the project may have a significant effect on a 'European designated site', or on any site to which the same protection is applied, under the Conservation of Habitats and Species Regulations 2010. There is a potential impact on a European designated site; Broadwater Lake. By running across the Mid-Colne Valley, it is possible that HS2 may indirectly affect Broadwater Lake, although the likelihood of this is low. Following discussion with Natural England, winter bird surveys will need to be undertaken in order to provide reliable conclusions. These surveys by the appointed environmental consultant will start in the Winter of 2012-13 as part of the EIA and any issues identified will be subject to appropriate mitigation measures. We expect further work to be undertaken to identify areas for enhancing biodiversity.

²⁴ These regulations implement the EU Directive on Ambient Air Quality.

Table Of Impacts

CFA	Wood	Area Lost	Total Loss per CFA
7	Ranston Covert and Battlesford Wood	0.1	0.1
10	Jones Hill Wood	0.7	0.7
12	Woodland along the bridleway adjacent to the landfill south-east of Calvert	1.4	1.4
13	Decoypond Wood	1.1	2.8
13	Woodland opposite Decoypond Wood	0.9	
13	Woodland to the south of Calvert east of the route	0.7	
13	Woodland to the south of Calvert west of the route	0.1	
14	Halse Copse	0.3	0.6
14	Mossycorner Spinney	0.3	
15	Fox Covert (Glyn Davies Wood)	1.4	1.4
17	Burnt Firs Wood	1.1	3.1
17	South Cubbington Wood	2.0	
18	Unnamed woodland south of the B4115 Ashow Road in Stoneleigh (Nr Stoneleigh Wood) [1]	0.2	7.4
18	Crackley Wood North, including Crackley Wood North Extension	0.9	
18	Birches Wood	0.6	
18	Roughknowles Wood	0.4	
18	Broadwells Wood	3.2	
18	Black Waste Wood	1.9	
18	Little Poors Wood	0.2	

[1]
This woodland was called 'Nr Stoneleigh Wood' in a Natural England report produced in 2014. However, HS2 have subsequently referred to this as the 'unnamed woodland south of the B4115 Ashow Road in Stoneleigh' in Environmental Statements and this is how the woodland is subsequently referred to in this report.

London West Midlands

Ancient Woodland Strategy

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3. Affected Woodlands and Compensatory Measures Identified

4.1 Ranston Covert and Battlesford Wood (CFA7)

Description of ecological quality

- 4.1.1 Ranston Covert and Battlesford Wood is ancient semi-natural woodland. It qualifies as lowland mixed deciduous woodland, a habitat of principal importance⁵. This area of ancient woodland is a reason for designation of the Colne Valley SSSI and it is of national value.
- 4.1.2 The citation for the Mid Colne Valley SSSI states that woodland in the SSSI is notable for its abundance of coralroot (*Cardamine bulbifera*) which has a restricted distribution nationally, but is characteristic of woodland in this locality.
- 4.1.3 Ranston Covert and Battlesford Wood is ash woodland with dog's mercury (*Mercurialis perennis*) in the ground flora. National Vegetation Classification⁶ (NVC) surveys indicated that parts of these woods could be classified as NVC type ash woodland W8 *Fraxinus excelsior*-*Acer campestre*-*Mercurialis perennis* woodland. Two NVC sub-communities are present: W8d *Hedera helix* sub-community (ivy sub-community) and one with similarities to W8e *Geranium robertianum* sub-community (herb robert sub-community⁷). The understorey has a high diversity of ancient woodland indicator species including bluebell (*Hyacinthoides non-scripta*), dog's mercury (*Mercurialis perennis*), and moschatel (*Adoxa moschatellina*) and includes two populations of coralroot.

Measures taken to reduce loss

The original scheme

- 4.1.4 The design of the Colne Valley Viaduct ensures that the River Colne will be diverted to flow between two viaduct piers avoiding the need for a long river diversion and the associated loss of river habitat and ancient woodland. However, the scheme still resulted in the loss of approximately 1 ha of ancient semi-natural woodland at Ranston Covert and Battlesford Wood.

⁵ Habitat of principal importance includes 56 habitats that form priorities for conservation in the UK as identified in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

⁶ The National Vegetation Classification (NVC) a common standard developed with the purpose of producing a comprehensive classification and description of the plant communities of Britain.

⁷ This NVC subcommunity has a north western distribution in the British Isles, it is possible that the apparent similarity is caused by the absence or low abundance of species associated with subcommunities with a more southerly distribution.

The SES scheme

- 4.1.5 As a result of changes in the boundary of Ranston Covert and Battlesford Wood in 2014 updates to the ancient woodland inventory⁸, the area of recognised ancient woodland within the land required for the scheme increased by approximately 0.7ha to a total of 1.7ha. Consequently there was a commitment to additional measures to address the loss of an additional 0.73ha of ancient woodland, either in a subsequent AP or by direct agreement with landowners.

The SES₃ scheme

- 4.1.6 Further design development resulted in a reduction in the land required for the construction of the Colne Valley viaduct by approximately 2.6ha, which reduced the extent of ancient woodland loss by approximately 1.6ha. As such, the SES₃ scheme results in the removal of approximately 0.1ha of ancient woodland from Ranston Covert and Battlesford Wood.
- 4.1.7 A small (0.26ha) unnamed woodland approximately 500m north-west of Ranston Covert and Battlesford Wood was added to the ancient woodland inventory in 2014. An area of approximately 25m² of this ancient woodland is within the CCB. In view of the fact that this unnamed woodland acquired ancient woodland status, no works will be undertaken within this woodland.

Location and extent of habitat loss

- 4.1.8 The AP₄ revised scheme will result in the loss of 0.08ha of ancient semi-natural woodland from the eastern edge of Ranston Covert and Battlesford Wood.

Compensation measures

- 4.1.9 Compensation for loss of ancient woodland will be provided through planting to link Juniper Wood, Little Halings Wood and Great Halings Wood, which are all ancient woodlands, within an approximately 17ha area of new lowland mixed deciduous woodland west of Tilehouse Lane. It is approximately 1.3km from the affected ancient woodland. This area of compensatory planting is for the loss of ancient woodland at Ranston Covert and Battlesford Wood as well as loss of non-ancient woodland habitat caused by the scheme elsewhere in the Colne Valley, including from the Mid Colne Valley SSSI.

⁸ The 2014 updates to the ancient woodland inventory resulted in a reduction in the extent of Ranston Covert and Battlesford Wood of approximately 0.7ha, from approximately 3ha as it was at the publication of the main ES, to 2.28ha. The boundary of this wood within the larger area of woodland to the west of the River Colne also changed.