



Habitats Regulations Assessment of the Stroud District Local Plan Review Pre-submission Draft Plan.

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Summary

The Conservation of Habitats and Species Regulations 2017 (as amended) require local authorities to assess the impact of their local plan on the internationally important sites for biodiversity in and around their administrative areas. Together, these Special Protection Areas, Special Areas of Conservation and Ramsar sites are known as European sites. The task is achieved by means of a Habitats Regulations Assessment (HRA).

An HRA asks very specific questions of a plan. Firstly, it 'screens' the plan to identify if there is a risk that certain policies or allocations may have a 'likely significant effect' on a European site, alone or (if necessary) in-combination with other plans and projects. If the risk of likely significant effects can be ruled out, then the plan may be adopted but if they cannot, the plan must be subjected to the greater scrutiny of an 'appropriate assessment' to find out if the plan will have an 'adverse effect on the integrity' of the European sites.

Following an appropriate assessment, a Plan may only be adopted if an adverse effect on the integrity of the site can be ruled out. If necessary, a plan should be amended to avoid or mitigate any likely conflicts. This usually means that some policies or allocations will need to be modified or, more unusually, may have to be removed altogether.

This document is the HRA for the Stroud District Local Plan Review Pre-submission Draft Plan (Regulation 19 Consultation), dated May 2021. The HRA found that likely significant effects could be ruled out for the vast majority of policies and allocations. However, the screening assessment was unable to rule out likely significant effects from a number of policies/allocations in terms of: urban effects (Severn Estuary Special Area of Conservation (SAC)/Special Protection Area (SPA)/Ramsar and Rodborough Common SAC), loss of supporting habitat/functionally linked land (Severn Estuary SAC/SPA/Ramsar), recreation (Cotswolds Beechwoods SAC, Rodborough Common SAC and Severn Estuary SAC/SPA/Ramsar), water issues (Severn Estuary SAC/SPA/Ramsar) and air quality (Cotswolds Beechwoods SAC and Rodborough Common SAC). These issues were therefore taken to appropriate assessment.

Urban effects

Urban effects relate to issues where development is close to the European site boundary and is an umbrella term relating to impacts such as light, noise, cat predation, fly tipping, spread of invasive species (e.g. from gardens and garden waste) and vandalism. Likely significant effects were identified alone for two allocations adjacent to the Severn Estuary SAC/SPA/Ramsar. These two allocations (PS34 and PS36) are within the Berkeley Cluster, at Sharpness. Mitigation measures have been embedded in the Plan and include a requirement that development is set back from the European site boundary, barriers involving wetland or aquatic habitats between the development site and the European site boundary and the need for site design and construction details to be addressed. Policy wording therefore ensures that urban effects are addressed at the detailed design stage and that measures are possible that can be secured at project level to eliminate adverse effects on integrity. The protective wording ensures adverse effects on integrity to the Severn Estuary SAC/SPA/Ramsar from

urban effects can be eliminated and as the risks are so small (due to development being set back and barriers put in place between the European site and housing), adverse effects on integrity can be ruled out alone or in-combination.

Likely significant effects were also identified for Rodborough Common SAC with respect to Delivery Policy EI2, which identifies existing employment sites where mixed use development will be permitted. Two sites were within 400m of Rodborough Common SAC. These are sites that are already developed and checks on aerial imagery indicate that these are sufficiently separated from the SAC that adverse effects on integrity can be ruled out for the sites alone and the risks are so small that adverse effects on integrity can also be ruled out in-combination.

Loss of supporting habitat/functionally-linked land

The loss, deterioration, or compromise of habitat outside a European site boundary that serves a supporting role for the European site can have impacts for qualifying features of European sites, particularly mobile species such as birds. Screening identified likely significant effects for the following allocations alone in relation to the Severn Estuary SAC/SPA/Ramsar: PS34 Sharpness Docks and PS36 Sharpness new settlement.

For both sites, mitigation measures have been embedded within the plan and address the scale of risk and issues at each location. For PS34 measures include a requirement for survey work and details of mitigation measures such as refuge areas secured within the detailed site design. For PS36, a much larger land area is allocated, spreading across multiple fields, with evidence that some of these are at least occasionally used by qualifying features of the SPA/Ramsar. Recognising that in the long-term such areas could play a more important role (as a result of climate change), there is some uncertainty as to the degree of risk. The Plan therefore requires provision of 35ha of nature reserve, with no public access, outside the Severn Estuary SAC/SPA/Ramsar. This will secure sufficient habitat as mitigation. Other measures include carefully planned construction to ensure no disturbance to the bird interest of the SPA/Ramsar. These various mitigation measures will need to be resolved through site design and project level HRA, in particular ensuring that the nature reserve is secured and effective in-perpetuity.

Subject to the above issues being, adverse effects on integrity from the loss of supporting habitat/functionally-linked land can be ruled out for the two allocations alone. The risks are so small that further assessment considering in-combination effects with other plans and projects would not change the outcome of the assessment and adverse effects on integrity for all sites from loss of supporting habitat can therefore be ruled out alone or in-combination.

Recreation

Screening identified likely significant effects alone for the Severn Estuary SAC/SPA/Ramsar as a result of allocations PS34 and PS36 (within the Berkeley Cluster), these are both large allocations adjacent to the European site. Likely significant effects were also identified as a result of the cumulative level of growth within the Plan within 15.4km of the Cotswolds Beechwoods SAC, within 3.9km of Rodborough Common SAC and within 7.7km of the Severn Estuary SAC/SPA/Ramsar. These distances reflect the distance bands used in existing

mitigation schemes (the 7.7km for the Severn Estuary SAC/SPA/Ramsar) or recent visitor survey data and distance within which 75% of visitors had originated.

Existing strategic approaches to address recreation impacts are in place for Rodborough Common SAC and for the Severn Estuary SAC/SPA/Ramsar and have been running for a number of years. These provide an established means to address the cumulative impacts from recreation and are cross-referenced within the Plan. However, both require updating to ensure they will deliver sufficient mitigation to address the scale of growth in the Local Plan Review. Once updated the mitigation strategies are likely to enable the Council to be confident that adverse effects on integrity, alone or in combination, can be ruled out for Rodborough Common SAC and for the Severn Estuary SAC/SPA/Ramsar.

A strategic mitigation scheme is also in draft for the Cotswolds Beechwoods SAC. Although currently in draft, it is referenced within the Plan and there is a clear commitment in the supporting text for Policy ES6. Once formally in place the strategy will address cumulative, in-combination effects of development across Stroud District and neighbouring authorities and will allow adverse effects on integrity to be ruled out, alone or in-combination.

For the two Sharpness allocations PS34 and PS36, mitigation measures have been incorporated into the Plan and these will be secured at project level. They include provision of a SANG associated with PS36 and the diversion of the current Severn Way promoted route. The measures ensure localised impacts resulting from large amounts of new housing in a single location are addressed. Alongside contributions towards an updated Severn Estuary strategic mitigation scheme these measures once implemented will be sufficient to address risks relating to recreation impacts and the Severn Estuary SAC/SPA/Ramsar and ensure adverse effects alone or in-combination can be ruled out.

Water issues

Detailed assessment indicates there are no risks in relation to water quantity and the River Severn SAC/SPA/Ramsar. With respect to water quality, details of how wastewater issues will be resolved will need to be checked as part of project level HRA for 7 sites and the details can only be addressed at the detailed masterplan level, which will inform any upgrade requirements or further constraints. The Plan contains relevant wording to ensure these checks are undertaken and development will not proceed without them. As such, it can be ascertained that the Plan will not adversely affect the integrity of the Severn Estuary SAC/SPA/Ramsar alone with respect to water issues. There is no need for mitigation. Given the absence of residual effects, there is no need for an in-combination assessment.

Air quality

Adverse effects on integrity resulting from traffic increases and air quality impacts are ruled out for Rodborough Common SAC alone. The level of traffic forecast, the distance from the main roads and the extent of the site within 200m of the main roads are such that further assessment considering in-combination effects with other plans and projects would not change the outcome of the assessment and adverse effects on integrity for Rodborough Common can be ruled out alone or in-combination.

For the Cotswolds Beechwoods SAC, the area affected is much larger and the site is already exceeding critical loads for Nitrogen and Ammonia. Relatively low levels of traffic are however forecast as a result of the Local Plan review and as such adverse effects on integrity can be ruled out from the Local Plan alone. Residual risks remain and an in-combination assessment is therefore required. Traffic modelling incorporating committed development from adjacent authorities indicates traffic flows will still be relatively low and adverse effects on integrity from the Stroud Local Plan Review in-combination with other plans and projects can therefore be ruled out. Nonetheless, it should be noted that the in-combination assessment does not include growth in the Joint Core Strategy (JCS) review, which is at a very early stage. As the JCS review progresses, there may be adverse effects in-combination. This will need to be addressed in HRA work for the JCS review and will also be relevant for any further reviews of the Stroud Local Plan. It is therefore recommended that further evidence gathering (see main body of report for details) is undertaken at an early stage.

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Cover image of Rodborough Common kindly provided by Deborah Roberts (Copyright), Stroud Valleys Project.

1. Introduction

Overview

- 1.1 This report is the Habitats Regulations Assessment (HRA) of the Stroud District Local Plan Review Pre-submission Draft Plan. This HRA report has been prepared by Footprint Ecology on behalf of Stroud District Council. A HRA assesses the implications of a plan for legally protected European sites..
- 1.2 The HRA has been updated at each stage of the Local Plan review, with an update to the report being prepared at each public consultation stage. This HRA report accompanies the Regulation 19, publication version of the plan in the spring of 2021. It builds on the previous iteration of this HRA report produced at the Draft Plan stage in 2019 and a further report with HRA considerations to accompany an additional consultation in 2020.

Habitats Regulations Assessment process

- 1.3 The designation, protection and restoration of European wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2017, as amended, which are commonly referred to as the 'Habitats Regulations'. Importantly, the most recent amendments (the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019¹) take account of the UK's departure from the EU.
- 1.4 Regulation 105 *et seq* addresses the assessment of local plans and determines the scope of this HRA alongside recent Government Guidance on the interpretation and application of the Regulations².

European sites

- 1.5 'European sites' are the cornerstone of UK nature conservation policy. Each forms part of a 'national network' of sites that are afforded the highest degree of protection in domestic policy and law. They comprise Special

¹ The amending regulations generally seek to retain the requirements of the 2017 Regulations but with adjustments for the UK's exit from the European Union. See Regulation 4, which also confirms that the interpretation of these Regulations as they had effect, or any guidance as it applied, before exit day, shall continue to do so.

² Habitats regulations assessments: protecting a European site. Defra and Natural England. 24 February 2021. <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site> (accessed 4 March 2021)

Protection Areas (SPA) classified under the 1979 Birds Directive and Special Areas of Conservation (SAC) designated under the 1992 Habitats Directive. As a matter of policy, potential SPAs (pSPAs), possible SACs (pSACs) and those providing formal compensation for losses to European sites, are also given the same protection³.

- 1.6 Together, the network comprises over 275 sites extending over 3,750,000ha⁴, and safeguards the most valuable and threatened habitats and species across the country and Europe. Prior to Brexit, this formed part of the EU-wide Natura 2000 network of SPAs and SACs to form the largest, coordinated network of protected areas in the world.
- 1.7 The designations made under the European Directives still apply and the term, 'European site' remains in use. According to long-established Government policy⁵, European sites also comprise 'Wetlands of International Importance' (or Ramsar sites) although these do not form part of the national network.
- 1.8 The overarching objectives of the national network is to maintain, or where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive to a Favourable Conservation Status, and contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.
- 1.9 The appropriate authorities must have regard to the importance of protected sites, coherence of the national site network and threats of degradation or destruction (including deterioration and disturbance of protected features) on SPAs and SACs.

³ For the avoidance of doubt, the list of statutory European sites also comprises: A site submitted by the UK to the European Commission (EC) before Exit Day (a candidate SAC or cSAC) as eligible for selection as a Site of Community Importance (SCI) but not yet entered on the ECs list of SCI, until such time as the Appropriate Authority has designated the site or it has notified the statutory nature conservation body that it does not intend to designate the site. After Exit Day, no further cSACs will be submitted to the EU. Statutory European sites also include SCI included on a list of such sites by the European Commission from cSACs submitted by the UK before the UK left the EU, until such time as the UK designates the site when it will become a fully designated SAC.

⁴ <https://jncc.gov.uk/our-work/special-protection-areas-overview/> (accessed 4 March 2021)

⁵ ODPM Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System (16 August 2005), to be read in conjunction with the current NPPF, other Government guidance and the current version of the Habitats Regulations.

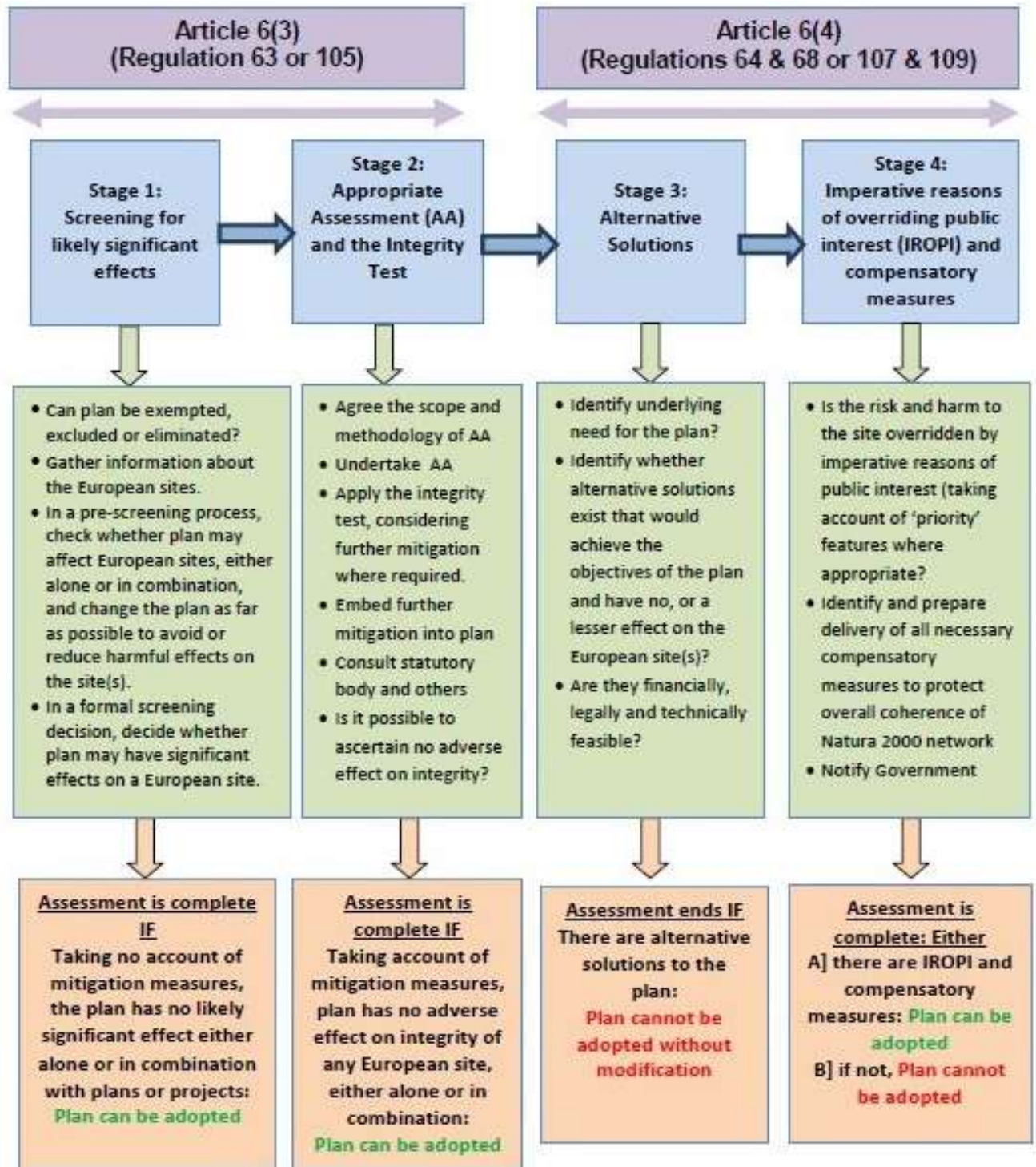
Role of the competent authority

- 1.10 Although this HRA has been prepared to help the Council discharge its duties under the Habitats Regulations, the Council is the competent authority, and it must decide whether to accept this report or otherwise. Further, it should be noted that this HRA has been prepared for the purposes of preparing and examining the Plan. Individual allocations will need to be reviewed when they become the subject of an individual planning application, to ensure that if further assessment under the Habitats Regulations is necessary, it is undertaken in accordance with the requirements of appropriate assessment.

Process

- 1.11 The step-by-step process of HRA is summarised in Figure 1. Though dated prior to the latest amendments to the Regulations, the same tests still apply and it remains valid.

Outline of the four-stage approach to the assessment of plans under the Habitats Regulations



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Figure 1: Outline of the assessment of plans under the Habitat Regulations

- 1.12 Throughout all stages, there is a continual consideration of the options available to avoid and mitigate any identified potential impacts. A competent authority may consider that there is a need to undertake further levels of evidence gathering and evaluation at the appropriate assessment stage in order to provide the necessary certainty. At this point the competent authority may identify the need to add to or modify the plan in order to adequately protect the European site, and these mitigation measures may be added through the imposition of particular restrictions and conditions.
- 1.13 For plans, the stages of HRA are often quite fluid, with the plan normally being prepared by the competent authority itself. This gives the competent authority the opportunity to repeatedly explore options to prevent impacts, refine the plan and rescreen it to demonstrate that all potential risks to European sites have been successfully dealt with.
- 1.14 When preparing a plan, a competent authority may therefore go through a continued assessment as the plan develops, enabling the assessment to inform the development of the plan. For example, a competent authority may choose to pursue an amended or different option where impacts can be avoided, rather than continue to assess an option that has the potential to significantly affect European site interest features.
- 1.15 After completing an assessment, a competent authority should only adopt a plan where it can be ascertained that there will not be an adverse effect on the integrity of the European site(s) in question. In order to reach this conclusion, the competent authority may have made changes to the plan, or modified the project with restrictions or conditions, in light of their Appropriate Assessment findings.
- 1.16 Where adverse effects cannot be ruled out, further exceptional tests are set out in Regulation 107. In exceptional cases, this allows a plan to be taken forward where there are no 'alternative solutions', where 'imperative reasons of overriding public interest' apply and where compensation can be delivered. It should be noted that meeting these tests is a rare last resort and ordinarily, competent authorities seek to ensure that a plan or project is fully mitigated for, or it does not proceed.
- 1.17 In such circumstances where a competent authority considers that a plan should proceed under Regulations 107, they must notify the relevant Secretary of State. Normally, planning decisions and competent authority duties are then transferred, becoming the responsibility of the Secretary of State, unless on considering the information, the planning authority is

directed by the Secretary of State to make their own decision on the plan or project at the local level. The decision maker, whether the Secretary of State or the planning authority, should give full consideration to any proposed ‘overriding reasons’ for which a plan or project should proceed despite being unable to rule out adverse effects on European site interest features, and ensure that those reasons are in the public interest and are such that they override the potential harm. The decision maker will also need to secure any necessary compensatory measures, to ensure the continued overall coherence of the European site network if such a plan or project is allowed to proceed. However, it is understood that the Council would not wish to pursue these derogations.

Definitions, references to case law and guidance

- 1.18 This HRA follows principles of case law, both UK and EU. It also refers as appropriate to the Habitats Regulations Assessment Handbook (Tyldesley & Chapman, 2021), to which Footprint Ecology subscribes. We also follow relevant government guidance.
- 1.19 Drawing on the Handbook, other relevant guidance and case law, we clarify the following terms used in the flow chart (Figure 1):
- 1.20 In Stage 1, A ‘**likely significant effect**’ following Waddenzee⁶, is a ‘*possible significant effect; one whose occurrence cannot be excluded on the basis of objective information*’. It is a low threshold and simply means that there is a risk or doubt regarding such an effect. The screening stage is a preliminary examination, sometimes described as a coarse filter, or following Sweetman, ‘*a trigger for the obligation to carry out an appropriate assessment*’. There should however be credible evidence to show that there is a real rather than a hypothetical risk of effects that could undermine a site’s conservation objectives. This was amplified in the Bagmoor Wind⁷ case where ‘*if the absence of risk... can only be demonstrated after a detailed investigation, or expert opinion, [then] the authority must move from preliminary examination to appropriate assessment*’.

⁶ Waddenzee: European Courts C-127/02 Waddenzee 7th September 2004, reference for a preliminary ruling from the Raad van State.

⁷ Bagmoor Wind: UK courts Bagmoor Wind v The Scottish Ministers, Court of Session [2012] CSIH 93

- 1.21 Following the People Over Wind judgement⁸, when making screening decisions for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures.
- 1.22 Stage 2 involves the **appropriate assessment and integrity test**. Here a plan can only be adopted if the competent authority can demonstrate that it will not adversely affect the integrity of the European site. This is precautionary approach and means it is necessary to show the absence of harm.
- 1.23 Following Champion⁹ **'appropriate'** is not a technical term but simply indicates that the assessment needs to be appropriate to the task in hand.
- 1.24 The **integrity** of a European site has been described as the *'coherence of its 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 the species for which it was classified'*¹⁰. An alternative definition, after Sweetman¹¹, is 'the lasting preservation of the constitutive characteristics of the site'.
- 1.25 In terms of the burden of proof, the HRA of development plans was first made a requirement in the UK following a ruling by the European Court of Justice in EC v UK¹². However, the judgement¹³ recognised that any assessment had to reflect the actual stage in the strategic planning process and the level of evidence that might or might not be available. This was given expression in the High Court (Feeney)¹⁴ which stated: *"Each ... assessment ... cannot do more than the level of detail of the strategy at that stage permits"*.
- 1.26 The need to consider possible **in-combination** effects arises at stage 1 – the screening and also at stage 2 – the appropriate assessment and integrity test. The effects of the plan in-combination with other plans or projects are the cumulative effects which will or might arise from the addition of the

⁸ People Over Wind: European Court Case C-323/17 People Over Wind & Peter Sweetman v Coillte Teoranta 12 April 2018

⁹ Champion: UK Supreme Court [2015] UKSC 52 22nd July 2015

¹⁰ Para 20 of the ODPM Circ. 06/2005

¹¹ Sweetman: European Court C – 258/11 Sweetman 11th April 2013, reference for a preliminary ruling from the Supreme Court of Ireland

¹² Commission v UK (C-6/04) [2005] ECR I-9017

¹³ Commission of the European Communities v UK Opinion of Advocate General Kokott

¹⁴ Feeney: Feeney v Oxford City Council [2011] EWHC 2699 (Admin) . 24th October 2011

effects of other relevant plans or projects alongside the plan under consideration. If during the stage 1 screening it is found the subject plan would have no likely effect alone, but might have such an effect in-combination then the appropriate assessment at stage 2 will proceed to consider cumulative effects. Where a plan is screened as having a likely significant effect alone, the appropriate assessment should initially concentrate on its effects alone.

The Stroud District Local Plan Review

- 1.27 The Stroud District Local Plan identifies the housing, employment, retail and community development that is required to meet local needs over a 20 year period. It sets out the strategy for distributing development within the District and policies for protecting and conserving the natural and built environment. This Pre-submission Local Plan sets out the Council's development strategy for meeting growth and development needs up to 2040.
- 1.28 Stroud District is a predominantly rural District, located on the south-western edge of the Cotswolds Area of Outstanding Natural Beauty, and the eastern shore of the Severn Estuary. The largely rural District has an industrial heritage associated with the wool trade and associated mills. The District has thriving market towns, and a rich historic and natural environment. To the immediate north the District borders Gloucester city, a larger scale urban area that contrasts with much of the Stroud District. The northern edge of the District could have a potential focus for growth associated with the neighbouring city and surrounding areas, recognising that there is a close relationship between housing on the City boundary and the provision of jobs and services to serve these houses.
- 1.29 The Plan covers the period to 2040 and includes a provision for 8,000 new homes across the District and a requirement for a minimum of 60.3ha for employment.

2. European sites in and around Stroud

Overview of potentially relevant European sites

- 2.1 A 20km buffer from the edge of the District was used to initially identify sites that may be potentially affected. This buffer is used by Footprint Ecology for local plan HRAs as it is deemed precautionary enough to capture most potential impact pathways (i.e. the means by which a European site may be affected) between plan implementation within a local planning authority's administrative area. The list of European sites within 20km was then evaluated in terms of relevant threats, vulnerabilities and current issues.
- 2.2 European sites within 20km are shown in Map 1 and European sites are listed in Table 1. Full details of the interest features and current pressures/threats for each site are summarised in Appendix 2.
- 2.3 Risks need to be identified in order to inform the screening for likely significant effects. European sites are at risk if there are possible means by which any aspect of a plan can, when being taken forward for implementation, pose a potential threat to the wildlife interest of the sites. This is often referred to as the 'impact pathway' as it is an identifiable means by which the plan or project could potentially affect the European site.
- 2.4 In assessing the implications of any plan or project for European sites, it is essential to fully understand the ecology and sensitivity of the sites, in order to identify how they may be affected. This section and the accompanying detailed site information within Appendix 2 identifies those sites that could potentially be affected by the policies and proposals within the Plan. Every European site has a set of 'interest features' which are the qualifying ecological features for which the site is designated or classified, and the features for which Member States should ensure the site is maintained or, where necessary, restored.
- 2.5 Each European site also has a set of 'conservation objectives' which set out targets the site should be achieving in terms of restoration or maintenance. Where sites are meeting their conservation objectives, the requirement is to maintain this position and not allow deterioration. Where a site requires restoration, competent authorities should work to bring site interest features back to a status that enables conservation objectives to be met. The site conservation objectives are relevant to any HRA because they identify what should be achieved for the site, and HRA may therefore consider whether any plan or project may compromise the achievement of those objectives.

The background to conservation objectives and key considerations are explained in Appendix 1.

2.6 The sites identified in Table 1 as being screened out of the HRA are considered not relevant primarily due to distance preventing any plausible impact pathways. The River Wye has a strategic approach to mitigation from new growth bringing increased nutrient enrichment, but this is only applicable within its catchment, for which the Stroud District is outside. Walmore Common is closer to the District boundary and is a regularly flooded damp grassland site that supports overwintering Bewick’s Swan *Cygnus columbianus bewickii*. The HRA work for the currently adopted Stroud Local Plan screened Walmore Common out from any likely significant effects due to its location on the opposite side of the River Severn and 5km from any significant settlement in the Stroud District. Since the adoption of the current Local Plan there isn’t any information or advice to alter the conclusion that this SPA can be screened out from further consideration.

Table 1: European Sites within a 20km radius

SAC	SPA	Ramsar
Screened in:		
Severn Estuary	Severn Estuary	Severn Estuary
Cotswolds Beechwoods		
Rodborough Common		
Screened out:		
North Meadow and Clattinger Farm	Walmore Common	
River Wye		
Wye Valley and Forest of Dean Bat sites		
Wye Valley Woodlands		

European sites to be considered in the screening of the plan

2.7 Drawing on the list of European sites within 20km of the Stroud District, it is concluded that the sites for which the Local Plan poses potential risks are Cotswolds Beechwoods SAC, Rodborough Common SAC and the Severn Estuary SPA/SAC/Ramsar site.

The Cotswolds Beechwoods SAC

- 2.8 The Cotswolds Beechwoods SAC straddles the boundaries of Cotswold, Stroud and Tewksbury Districts and totals some 590ha¹⁵.
- 2.9 The SAC consists of ancient beech woodland, some secondary woodland and a small area of unimproved grassland. The qualifying features¹⁶ of the Cotswolds Beechwoods SAC relate to both the woodland and grassland habitats:
- Asperulo-Fagetum beech forests;
 - Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*).
- 2.10 The Cotswolds Beechwoods represent one of the most westerly extensive blocks of *Asperulo-Fagetum* beech forests and are very floristically rich compared to other similar sites. The Beechwoods are mostly high forest, dominated by Beech *Fagus sylvatica*, with Ash *Fraxinus excelsior*, Pedunculate Oak *Quercus robur*, patches of Sycamore *Acer pseudoplatanus* and some areas of remnant beech coppice. Understorey species include Holly *Ilex aquifolium* and Yew *Taxus baccata* with a varied and interesting ground flora. Notable plants include Red Helleborine *Cephalanthera rubra*, Stinking Hellebore *Helleborus foetidus*, Narrow-lipped Helleborine *Epipactis leptochila*, Fingered Sedge *Carex digitate* and Bird's-nest Orchid *Neottia nidus-avis*. Other taxa include a wide diversity and variety, with over 780 species of fungi being recorded at Buckholt Wood alone.
- 2.11 Wetter parts of the site are also of interest, with abundant mosses and liverworts which are important conditions for several nationally rare terrestrial snails, including; *Ena montana*, *Phenocolimax major*, *Acicula fusca* and *Macrogastera rolfii* - all species of ancient woodlands. Furthermore, open areas and woodland margins are important areas for butterflies such as the Silver-washed Fritillary *Argynnis paphia*, White Admiral *Ladoga Camilla* and White-letter Hairstreak *Strymonidia w-album*.
- 2.12 The unimproved limestone grassland of the SAC consists of areas of glades and rides within the woodland, the largest area being the cheese-rolling slope at Coopers Hill. The grassland habitat contains Upright Brome *Bromus erectus*, Tor-grass *Brachypodium pinnatum* and Sheep's-Fescue *Festuca ovina*,

¹⁵ Figure from the supplementary conservation objectives.

¹⁶ Full details are in the [SAC citation](#) on the Natural England website

with Quaking Grass *Briza media* and a wide range of other flowering herbaceous plants.

- 2.13 The component Site of Special Scientific Interest (SSSI) is the Cotswold Commons and Beechwoods and the site is also a National Nature Reserve (NNR), the Cotswold Commons and Beechwoods NNR. Both the NNR and SSSI extend beyond the SAC. The Cotswolds Beechwoods are also recognised for their landscape value, lying within the heart of the Cotswold Area of Outstanding Natural Beauty (AONB).

Rodborough Common SAC

- 2.14 Rodborough Common SAC sits on the Jurassic Limestone of the Cotswolds just to the south of Stroud town. It qualifies as an SAC for Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*).
- 2.15 The site is the most extensive area of semi-natural dry grassland surviving in the Cotswolds and forms part of a much larger network of unimproved grassland, good quality semi-improved grassland and woodland that stretches much of the length of the scarp (the western ridge and steep western slope of the hills). The site lies on a hill bounded either side by the Nailsworth and Frome valleys, with a number of dry valleys cutting into its margins. It thus consists of a central plateau area which drops away steeply on all sides.
- 2.16 The wide variation of soil depth, slope and aspect results in a varied species composition and character of the vegetation which is primarily that of unimproved, herb-rich, calcareous grassland. On the central plateau, free roaming cattle and trampling from people result in a short and less-varied sward while the slopes are more varied with areas of thin skeletal soils grading to thicker soils with scrub. The slopes are particularly species-rich both for plants and insects. The site supports a high number of orchid species (including Frog, Fragrant, Bee, Common Spotted, Early Purple and Pyramidal Orchid) and the rare Pasque Flower.
- 2.17 Scrub has developed over scattered parts of the Common, particularly near the margins. Of particular interest are areas containing Juniper. Broadleaved woodland occurs on some of the site margins. The site supports a varied invertebrate fauna including a range of bugs, beetles and moths and rare butterflies such as the Duke of Burgundy, Adonis Blue and Small Blue.
- 2.18 The site is a registered Common.

The Severn Estuary SAC/SPA/Ramsar

- 2.19 The Severn Estuary lies between Wales and England. It is one of the largest estuaries in Europe and supports extensive intertidal mud-flats and sand-flats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The subtidal seabed is rock and gravel with subtidal sandbanks. The site also supports reefs of the tube forming worm *Sabellaria alveolata*.
- 2.20 The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have one of the highest tidal ranges in the world. A consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK. The tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. The species-poor intertidal invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders and fish.
- 2.21 The site is of importance during the spring and autumn migration periods for waders, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders. The fish fauna is very diverse with more than 110 species identified. The site is of particular importance for migratory fish.
- 2.22 The site qualifies as an SAC for the following habitats:
- Reefs;
 - Estuaries;
 - Mudflats and sandflats not covered by seawater at low tide;
 - Sandbanks which are slightly covered by sea water all the time;
 - Atlantic salt meadows (*Glauco-Puccinellietalia maritima*).
- 2.23 And the following species:
- River Lamprey;
 - Sea Lamprey;
 - Twait Shad.
- 2.24 The Severn Estuary SPA is classified for its waterbird assemblage and for the following non-breeding species:
- Greater White-fronted Goose
 - Bewick Swan
 - Common Shelduck
 - Gadwall
 - Dunlin

- Common Redshank

2.25 The Ramsar interest features are:

- Estuaries;
- Assemblage of migratory fish species (Sea Lamprey, River Lamprey, Twaite Shad, Allis Shad, Salmon, Sea Trout and Eel);
- Wider estuarine fish assemblage
- Waterfowl assemblage and the following individual species: Greater White-fronted Goose, Bewick Swan, Common Shelduck, Gadwall, Dunlin, Common Redshank.

Relevant impact pathways

2.26 There are a range of possible means by which the content of the Stroud Local plan could affect European site interest features. Potential impact pathways, adapted from the previous HRA work, are summarised in Table 2.

Table 2: Summary of potential impact pathways - i.e. potential mechanisms whereby the different European sites could be impacted. (✓)= possible/lower concern

Site	Urban effects	Loss of supporting habitat	Recreation	Water issues	Air quality
Severn Estuary SPA/Ramsar site	✓	✓	✓	✓	✓
Severn Estuary SAC	✓	✓	✓	✓	✓
Cotswolds Beechwoods SAC	✓		✓	(✓)	✓
Rodborough Common SAC	✓		✓	(✓)	✓

Urban effects

2.27 Urban effects relate to issues where development is close to the European site boundary and is an umbrella term relating to impacts such as cat predation, impacts from lighting, invasive species, fly tipping and vandalism (e.g. Underhill-Day, 2005; Corney et al., 2008; Ryan, 2012). These impacts are particularly relevant where development is in close proximity, within a few hundred metres of the site boundary.

Loss of supporting habitat

2.28 Many European sites support mobile species which can use land outside the European site boundary (Chapman & Tyldesley, 2016), for example waders

and wildfowl can use farmland and low-lying land around estuaries as feeding or roost sites. Land around the periphery of European sites may also be important for land management or for future management, for example in relation to realignment and coastal squeeze on estuaries.

- 2.29 These issues are particularly relevant to the Severn Estuary SPA/SAC/Ramsar, where geese, swans and waders will use nearby areas as roost sites (during high tide) and also foraging habitat. The role of supporting habitat for the site may well change over time, and the impacts of climate change are relevant. The estuary supports dynamic habitats that will change over time, with change exacerbated by rising sea levels/storminess and the presence of hard sea defences, meaning there is likely to be a loss of habitats within the estuary. Loss of saltmarsh and similar habitats may mean birds increasingly rely on land outside the estuary.
- 2.30 New development could also pose risks in terms of a need to retain and maintain existing sea defences that might otherwise be planned for decline and breaching over time, and can also strongly support the building of new defences. Supporting habitats provide resilience and scope for the estuary to change over time.

Recreation

- 2.31 Recreation impacts relate to the increased use of European sites (and functionally-linked land) for recreation, as a result of more people living nearby. All the relevant sites have extensive public access and are attractive, extensive countryside sites. They therefore provide obvious destinations for recreational use. Issues include disturbance, trampling, eutrophication (e.g. dog fouling) and other contamination and increased fire risk (Liley et al., 2010; Lowen et al., 2008; Saunders et al., 2000).
- 2.32 Visitor survey work from the relevant European sites provides information on where visitors originate. For the Severn Estuary there is an established mitigation approach that applies a zone of 7.7km around the SPA/Ramsar. Visitor surveys from the Cotswolds Beechwoods show that 75% of visitors (who were on a day-trip/short visit directly from home) originated from within 15.4km of the interview location (Panter & Caals, 2019a). The equivalent figure for Rodborough Common is 3.9km (Panter & Caals, 2019b). While this represents the most recent and up to date evidence, it should be noted that there is an existing mitigation strategy for Rodborough Common that applies 3km.

- 2.33 A mitigation strategy is in preparation for the Cotswolds Beechwoods SAC and this will ensure cumulative growth from multiple authorities can be adequately mitigated.

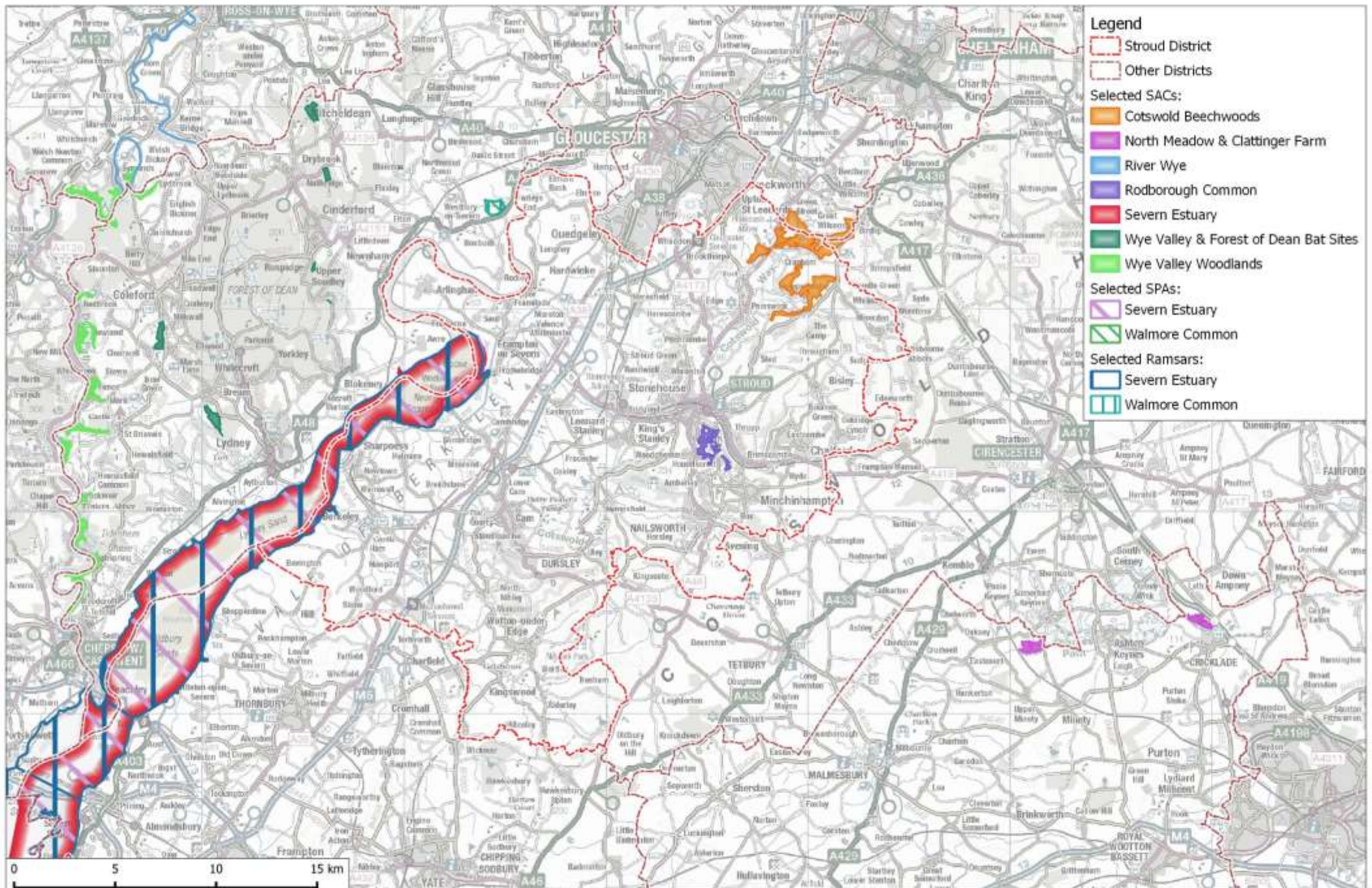
Water issues

- 2.34 Water issues include water quality and water quantity (i.e. water availability), and flood management. Run-off, outflow from sewage treatments and overflow from septic tanks can result in increased nutrient loads and contamination of water courses. Abstraction and land management can influence water flow and quantity, resulting in reduced water availability at certain periods or changes in the flow. Such impacts particularly relate to aquatic and wetland habitats.
- 2.35 Assessment of water related issues are primarily a check that the overall quantum of growth can be accommodated without compromising the ecological integrity of hydrologically sensitive European sites. The Cotswolds Beechwoods SAC and Rodborough Common SAC do not have any qualifying features that are wetland habitats or species and the topography of these sites means flooding as a result of urban development is of low concern. As such the risks for these sites are relatively low. Water supply was not deemed to be an issue for the District and the 2019 HRA work did not raise any concerns.

Air Quality

- 2.36 Increased levels of traffic on roads that cross or run adjacent to European sites can result in reductions in air quality. These are primarily as a result of increased nitrogen deposition but are also related to increases in both sulphur and ammonia. Traffic generated air quality reductions can impact on vegetation communities (Bobbink et al., 1998; Stevens et al., 2011).
- 2.37 Concerns relate to when there are roads within 200m of the European site. All sites have minor roads that run within 200m. Major roads of concern are primarily the A46 which runs within 200m of both Rodborough Common and the Cotswolds Beechwoods. For the Severn Estuary the only major roads within 200m are well outside Stroud District at the two Severn crossings on the M4 and M48.

Map 1: SPA, SAC and Ramsar sites in the area.



3. Screening the Local Plan for Likely Significant Effects

- 3.1 This section documents the screening stage of HRA (stage 1 of the 4 stage process), where the plan is screened for likely significant effects.
- 3.2 The screening for likely significant effects of a plan involves checking all aspects of the plan and identifying any areas of potential concern, which are then examined in more detail in the appropriate assessment (stage 2) of the HRA. The check for likely significant effects provides an initial test of the plan. It is undertaken to enable the plan maker as competent authority to do two things. Firstly, it narrows down and highlights those elements of the plan that may pose a risk to European sites. Secondly, where an option poses a risk but is a desired element of the plan, the screening exercise identifies where further assessment is necessary in order to determine the nature and magnitude of potential impacts on European sites and what could be done to avoid, cancel, reduce or eliminate those risks. Further assessment and evidence gathering after early screening may include, for example, the commissioning of additional survey work, modelling, researching scientific literature or setting out justifications in accordance with expert opinion.

What constitutes a likely significant effect?

- 3.3 Where the screening identifies risks that cannot be avoided with simple clarifications, corrections or instructions for project level HRA, a more detailed assessment is undertaken to gather more information about the likely significant effects and give the necessary scrutiny to potential mitigation measures. This is the appropriate assessment stage of HRA.
- 3.4 A likely significant effect could be concluded on the basis of clear evidence of risk to European site interest, or there could be a scientific and plausible justification for concluding that a risk is present, even in the absence of direct evidence. The latter is an example of the precautionary approach, which is embedded through the HRA process. The precautionary principle should be applied at all stages in the HRA process and follows the principles established in domestic and EU case law.

3.5 The screening in this report looks at policies prior to any avoidance, reduction or mitigation measures in line with People Over Wind¹⁷; mitigation can only be considered at Appropriate Assessment stage. People Over Wind clarified the need to carefully explain actions taken at each HRA stage, particularly at the screening for likely significant effects stage. The Judgment highlights the need for clear distinction between the stages of HRA, and good practice in recognising the function of each. The screening for likely significant effects stage should function as a screening or checking stage (regardless of avoidance, reduction/mitigation measures), to determine whether further assessment is required. Assessing the nature and extent of potential impacts on European site interest features, and the robustness of mitigation options, should be done at the appropriate assessment stage.

The screening

3.6 Map 2 shows key elements of the Plan, including strategic housing sites.

3.7 The screening for likely significant effects was undertaken to cover the whole plan and Appendix 3 provides the screening table, with a policy by policy check of the whole plan. Where risks are highlighted and there is a possibility of significant effects on European sites, further and more detailed appropriate assessment is required. Inevitably there will be precaution in screening elements of the plan, as the purpose of screening for likely significant effects is to identify where there is either no possibility of an effect, or where there are uncertainties.

Screening conclusions

Urban effects

3.8 Screening identified likely significant effects for the following policies/allocations alone in relation to general urban effects and the Severn Estuary SAC/SPA/Ramsar:

- Berkeley Cluster: Vision
- PS34 Sharpness Docks;
- PS36 Sharpness new settlement.

¹⁷ People Over Wind: European Court Case C-323/17 People Over Wind & Peter Sweetman v Coillte Teoranta 12 April 2018

3.9 Screening identified likely significant effects for the following policy alone and Rodborough Common SAC:

- Delivery Policy EI2: Regenerating existing employment sites.

Loss of supporting habitat/functionally-linked land

3.10 Screening identified likely significant effects for the following allocations alone in relation to general urban effects and the Severn Estuary SAC/SPA/Ramsar:

- PS34 Sharpness Docks;
- PS36 Sharpness new settlement.

Recreation

3.11 Screening identified likely significant effects alone for the overall quantum of growth for the District and for different areas within the District, as detailed in the following parts of the Plan:

- Cotswolds Beechwoods SAC: 2.3 An introduction to the development strategy; 2.4 Our towns and villages; 2.5 Housing; 2.6 Local economy and jobs; CP2 Strategic growth and development locations; The Stroud Valleys: vision; The Stonehouse Cluster: vision; Cam & Dursley: vision; Gloucester’s rural fringe.
- Rodborough Common SAC: 2.3 An introduction to the development strategy; 2.4 Our towns and villages; 2.5 Housing; 2.6 Local economy and jobs; CP2 Strategic growth and development locations; The Stroud Valleys: vision; The Stonehouse Cluster: vision.
- Severn Estuary SAC/SPA/Ramsar: 2.3 An introduction to the development strategy; 2.4 Our towns and villages; 2.5 Housing; 2.6 Local economy and jobs; CP2 Strategic growth and development locations; The Stonehouse Cluster: vision; Cam & Dursley: vision; Gloucester’s rural fringe; The Berkeley cluster: vision.

3.12 Likely significant effects were identified for the following policies alone in relation to recreation impacts and the Severn Estuary SAC/SPA/Ramsar, due to the scale of growth involved and the proximity to the European site boundary:

- The Berkley cluster: vision;
- PS34 Sharpness Docks;
- PS36 Sharpness new settlement.

3.13 Screening identified likely significant effects in-combination for Rodborough Common SAC as a result of the following policy:

- Delivery Policy EI2: Regenerating existing employment sites.

3.14 Screening identified likely significant effects in-combination for the following allocations:

- Cotswolds Beechwoods SAC: G1, G2, HAR017, PS01, PS02, PS05, PS06, PS10, PS11, PS12, PS16, PS17, PS19a, PS24, PS30, PS37, PS41, PS42, PS44, PS45, PS46, STR065.
- Rodborough Common SAC: PS01, PS02, PS05, PS06, PS10, PS11, PS12, PS16, PS42, STR065.
- Severn Estuary SAC/SPA/Ramsar: BER016/17, G1, HAR017, PS16, PS17, PS19a, PS24, PS25, PS28, PS30, PS33, PS34, PS35, PS36, PS37, PS42, PS44, PS45, PS46.

Water issues

3.15 Screening identified likely significant effects alone for the Severn Estuary SAC/SPA/Ramsar as a result of the overall quantum of growth within the Plan and as set out in the following policies/sections of the Plan:

- 2.3 An introduction to the development strategy;
- 2.4 Our towns and villages;
- 2.5 Housing;
- 2.6 Local economy and jobs;
- CP2 Strategic growth and development locations;
- The Stroud Valleys: vision
- The Stonehouse Cluster: vision
- Cam & Dursley: Vision
- Gloucester's rural fringe
- The Berkeley cluster: vision;
- Delivery Policy EI2: Regenerating existing employment sites.

3.16 In addition, all individual allocations and Delivery Policy EI2: Regenerating existing employment sites were screened in for likely significant effects in combination.

Air Quality

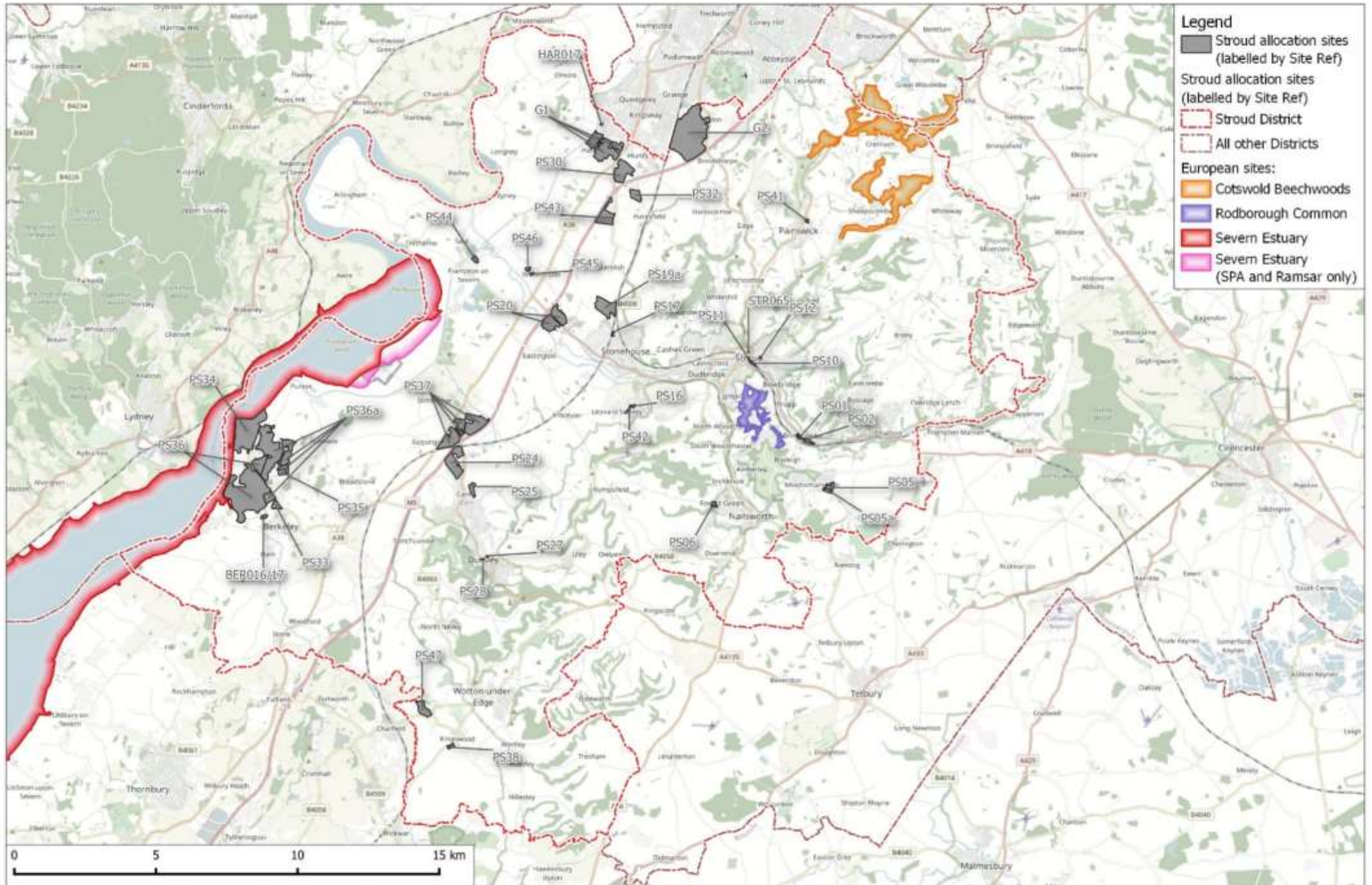
3.17 Likely significant effects alone for air quality impacts and the Cotswolds Beechwoods SAC and Rodborough Common SAC were identified as a result of the overall quantum of growth within the Plan as set out in the following policies/sections:

- 2.3 An introduction to the development strategy;
- 2.4 Our towns and villages;
- 2.5 Housing;
- 2.6 Local economy and jobs;
- CP2 Strategic growth and development locations;
- The Stroud Valleys: vision
- The Stonehouse Cluster: vision
- Cam & Dursley: Vision
- Gloucester's rural fringe
- The Berkeley cluster: vision

3.18 In addition, all individual allocations and Delivery Policy EI2: Regenerating existing employment sites were screened in for likely significant effects in combination.

3.19 Delivery Policy ES5: Air Quality references the need for mitigation for air quality impacts and Following the ruling in People over Wind, mitigation was not taken into account in the screening decision.

Map 2: Location of Stroud allocations in relation to the 3 sites; Seven Estuary, Cotswold Beechwoods and Rodborough Common.



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4. Appropriate assessment: Urban effects

Relevant policies from LSE screening

4.1 Screening identified likely significant effects for the following policies/allocations alone in relation to general urban effects and the Severn Estuary SAC/SPA/Ramsar:

- Berkeley Cluster: Vision
- PS34 Sharpness Docks;
- PS36 Sharpness new settlement.

4.2 Screening identified likely significant effects for the following policy alone and Rodborough Common SAC:

- Delivery Policy EI2: Regenerating existing employment sites.

Introduction

4.3 Urban effects relate to issues where development is close to the European site boundary and is an umbrella term relating to impacts such as light, noise, cat predation, fly tipping, spread of invasive species (e.g. from gardens and garden waste) and vandalism. Development in close proximity can mean European sites are fragmented and isolated with development creating barriers to species movement.

4.4 Studies of fire incidence have shown that sites with high levels of housing within 500m of the site boundary have a higher fire incidence (Kirby & Tantram, 1999). Fires can start in a range of ways, including deliberate arson, children playing, campfires, barbeques, sparks from vehicles, discarded cigarettes etc. While linked to urban effects we treat fire risk under recreation, as the issues are not limited to housing in close proximity. Similarly, invasive species can be spread through garden waste and can also be spread through recreation, and we consider spread of invasives by people in the appropriate assessment section for recreation.

4.5 Where housing is in close proximity adjacent green space is often the focus for use such as bike jumps or den building or camps. Fly-tipping and dumping of garden waste can be more common when housing is in close proximity. Noise pollution and light pollution can spill from urban areas and where housing is in close proximity. As such, managing and looking after such sites can be more challenging.

- 4.6 A development exclusion zone has been established around many European sites to reflect the particular risks with development directly adjacent to the boundary. Local plans and strategic mitigation schemes include a presumption against development within these areas and such zones have become an established policy approach.
- 4.7 Examples of areas where a zone is established in planning policy include:
- Across the Thames Basin Heaths (11 local planning authorities)
 - Around the Dorset Heaths (five local planning authorities)
 - In the Brecks (e.g. Breckland District)
 - Around the East Devon Pebblebed Heaths (East Devon District Council)
 - Around Cannock Chase SAC (e.g. Cannock Chase Council Local Plan)
 - At Ashdown Forest SPA/SAC (e.g. Wealden District's Core Strategy Local Plan)
 - Burnham Beeches (e.g. Chilterns and South Bucks).
- 4.8 Most of the above examples are heathland sites and a 400m zone is used, however Burnham Beeches is a woodland site and the zone is 500m. The exclusion approach is widely accepted and reduces the risks from increasing urbanisation. It provides greater certainty that mitigation measures (such as access management) for cumulative levels of urban growth will be successful as such measures can be targeted to those travelling some distance.
- 4.9 The choice of 400m is based on the literature (summarised in Underhill-Day, 2005) and to some extent is a pragmatic choice. For example, 400m reflects distances at which sites will be 'local' and easily accessible from nearby housing and fits with the fire research outlined above. Studies of cat roaming behaviour have shown 400m to be an appropriate buffer width to limit cats in very urban environments (Thomas, Baker, & Fellowes, 2014), however in more rural areas cats can roam considerably further and some studies have suggested ranges over 2km for more rural situations (Hall et al., 2016; Metsers, Seddon, & van Heezik, 2010).
- 4.10 We have checked relevant European sites for allocations and the scale of growth around all European sites within 400m, i.e. very close to the site boundary. Any allocations were screened in for likely significant effects from urban effects. There were no allocations or plan-led growth identified within 400m of the Cotswolds Beechwoods SAC or Rodborough Common SAC. It should be noted that at Rodborough Common SAC there were two allocations just beyond the four

hundred metres¹⁸, however these are separated from the SAC by a railway line, woods, fields and existing housing and therefore there are no credible risks from urban effects.

Rodborough Common SAC and Delivery Policy EI2

- 4.11 Delivery Policy EI2 identifies a number of existing employment sites which will be permitted for mixed-use development, including employment and housing, providing “there are demonstrable environmental and/or conservation benefits. The policy expects sites to provide at least the same employment opportunities, subject to viability and site-specific circumstances.
- 4.12 The policy lists 5 sites and of these, 2 are within 400m of Rodborough Common SAC: Ham Mills (around 350m from the SAC boundary, at its closest) and Stafford Mills (around 380m from the SAC boundary, at its closest). Risks of development at these sites could relate to:
- Contamination, e.g. from fly tipping, litter etc;
 - Spread of invasive plants from gardens etc;
 - Increased fire incidence.
- 4.13 The sites are already existing employment land and risks are therefore likely to relate to any changes in use, for example resulting in residential use. Risks are relatively low given the interest of the European site, the distances involved and the fact that the sites are already developed. Checks of the sites on aerial imagery indicates that they are separated from the SAC by fields and the railway line which will provide barriers to any urban effects. Given these site-specific circumstances, adverse effects on integrity can be ruled out for the sites alone and the risks are so small that adverse effects on integrity can also be ruled out in-combination.

The Severn Estuary SAC/SPA/Ramsar

- 4.14 For the Severn Estuary SAC/SPA/Ramsar there were two allocations directly adjacent to the SAC/SPA/Ramsar at Sharpness, where loss of supporting habitat is a potential risk:

¹⁸ PS01 Brimscombe Mill, an allocation for 40 dwellings, employment uses and associated community and open space uses, together with enabling infrastructure and PS02 Brimscombe Port, an allocation for a development comprising 150 dwellings, canal related tourism development and employment uses and associated community and open space uses, together with enabling infrastructure.

- PS34 Sharpness Docks (adjacent to Severn Estuary SAC/SPA/Ramsar) which will include 300 houses and tourist accommodation, camping, recreation use.
- PS36 Sharpness new settlement (adjacent to Severn Estuary SAC/SPA/Ramsar) with a new community of approximately 5000 dwellings by 2050 (2400 of which are allocated within the Plan).

4.15 These two allocations are also set out in the Berkeley Cluster: vision.

4.16 Risks from urban effects and the Severn Estuary SAC/SPA/Ramsar here would relate to:

- Light pollution (during construction and post development), with risk of disturbance to birds (SPA/Ramsar only);
- Noise pollution (during construction and post development), with risks of disturbance to birds (SPA/Ramsar only);
- Contamination, e.g. from fly tipping, litter etc.
- Spread of invasive plants from gardens etc;
- Increased incidence of predators associated with urban environments (foxes, rats etc.) (SPA/Ramsar only);;
- Increased cat predation (SPA/Ramsar only);;
- Increased fire incidence (albeit a very low risk given the coastal and wetland habitats involved).

4.17 The site improvement plan for the Severn Estuary does not specifically mention urban effects but highlights the impacts of development as a current pressure and a threat. Marine litter is also identified as a current pressure/threat, with fly-tipping specifically cited.

4.18 The urban effects relate very specifically to those parts of the European site in close proximity to the allocations and given that there are two specific allocations in close proximity, the issues are localised to a single part of the estuary. Nonetheless, in the absence of any mitigation, it is not possible to rule out adverse effects on integrity for the two allocations alone.

Mitigation

4.19 The urban effects identified can therefore be addressed through site design and project level HRA.

4.20 Policy wording for PS34 requires:

- New residential units to be separated from the SAC/SPA/Ramsar by the Sharpness Ship Canal, ensuring a barrier to limit urban effects;
- A management plan for protecting the natural environment (focussed on the interest features of the SAC/SPA/Ramsar site);

- An analysis of construction and operational noise and details of mitigation deployed to ensure that disturbance of SPA/Ramsar site birds does not occur;
- Careful lighting design, both with regard to security lighting during construction and permanent lighting during occupation, to ensure no increase in illumination of the SAC/SPA/Ramsar site;
- Details of potential mitigation measures that include on-site management to mitigate incidences of fly-tipping.

4.21 Policy wording for PS36 requires:

- Development to be set back at least 400m from the SPA/SAC boundary;
- Provision of a 35ha nature reserve with no public access, that will largely separate the housing from the European site and provide an effective buffer;
- Carefully planned construction to ensure no disturbance.

4.22 Policy wording therefore ensures that urban effects are addressed at the detailed design stage and that measures are possible that can be secured at project level to eliminate adverse effects on integrity. The protective wording ensures adverse effects on integrity to the Severn Estuary SAC/SPA/Ramsar from urban effects can be eliminated and as the risks are so small (due to development being set back and barriers put in place between the European site and housing), the adverse effects on integrity can be ruled out alone or in-combination.

5. Appropriate assessment: Loss of supporting habitat

Relevant policies from LSE screening

5.1 Screening identified likely significant effects for the following allocations alone in relation to general urban effects and the Severn Estuary SAC/SPA/Ramsar:

- PS34 Sharpness Docks;
- PS36 Sharpness new settlement.

Introduction

5.2 For a number of sites and species there are areas outside the boundary of the European site that are likely to be important and at risk from development. There are therefore risks to sites through the loss, deterioration, or compromise of habitat outside a European site boundary that serves a supporting role for the European site, as reservoirs of mobile species migrating in and out of a European site or providing genetic exchange, as roosting, foraging or breeding sites for species or as stepping stones between European sites and equivalent habitat. Where European sites are isolated in the landscape there is greater risk of species extinctions and little chance of recolonisation. Supporting habitat can therefore play an important role in the resilience of sites and their ability to support the qualifying interest in the long term.

Risks for the Severn Estuary SAC/SPA/Ramsar

5.3 For the Severn Estuary SAC/SPA/Ramsar there were two allocations within the Berkeley Cluster that are directly adjacent to the SAC/SPA/Ramsar at Sharpness, and loss of supporting habitat is a potential risk:

- PS34 Sharpness Docks (adjacent to Severn Estuary SAC/SPA/Ramsar) which will include 300 houses and tourist accommodation, camping, recreation use.
- PS36 Sharpness new settlement (adjacent to Severn Estuary SAC/SPA/Ramsar) with a new community of approximately 5000 dwellings by 2050 (2400 of which are allocated within the Plan).

5.4 Risks in relation to the Severn Estuary SAC/SPA/Ramsar relate to:

- Land used for foraging and roosting by the wintering waterbird assemblage and individual qualifying species such as Greater White-fronted Goose and Bewick Swan (SPA/Ramsar);

- Areas outside the European site boundary which provide supporting habitat and connectivity for migratory fish such as lamprey and European Eel (SAC/Ramsar).

5.5 Use of supporting habitat by qualifying features may well vary markedly over time. The wintering waterbirds occur in flocks that will cover large areas and mean use is concentrated in space and time. A flock may only use a given area for a short time window or when particular conditions occur, for example the cropping regime will influence use of arable fields (geese and swans will often feed on arable land) while water levels and weather conditions will influence the use of low-lying land as roost sites or feeding sites by waders (Colwel et al., 2003; Conklin et al., 2008; Rehfish et al., 2003). Disturbance may cause birds to switch roost sites or feeding sites (Linssen et al., 2019; Peters & Otis, 2007).

5.6 Risks can be exacerbated by climate change, which also adds to the level of uncertainty regarding the scale of risk. Rising sea levels result in coastal squeeze, whereby habitat is lost on the sea-ward side of coastal sea defences. This can mean, for example, that roosting birds are increasingly pushed off intertidal habitat at high tide and are more likely to use fields and inland areas. This adds to the uncertainty as it means the importance of different areas will change over time.

5.7 For the avoidance of doubt, at Sharpness, the existing Shoreline Management Plan (SMP) identifies the need to Hold the Line (HTL) and the area is therefore not currently intended as an area where the sea defences might be allowed to breach. Any loss of intertidal habitat (such as saltmarsh) within the SAC/SPA/Ramsar is therefore addressed through the SMP (which is subject to its own HRA). This HRA for the Local Plan Review is therefore in a sense 'shielded' by the SMP process and the HTL intention. The Local Plan includes no requirement build or maintain physical defences and therefore the issues with respect to supporting habitat/functionally-linked land in the vicinity of Sharpness will relate to issues such as habitat loss (of land used by relevant qualifying features but outside the European site boundary) and associated issues of disturbance, deterioration etc.

5.8 Risks relate to the proximity to the estuary and the habitats present. All allocations within 5km of the Severn Estuary SAC/SPA/Ramsar were checked using aerial imagery as part of the screening. Areas likely to have the most potential as supporting habitat are those in relative proximity to the estuary, low-lying, those supporting wetland or open habitats (e.g. large fields) and those without adjacent busy roads, housing or other structures. These checks identified only the two allocations at Sharpness, PS34 and PS36.

Site specific evidence

- 5.9 PS34 involves around 96ha of land, a significant proportion of which is already developed and the remaining habitat includes scrub and grassland. PS36 involves around 193ha of predominantly farmland (with a further 136ha identified in Phase 2, shown as PS36a on Map 2 and not allocated within this Plan).
- 5.10 Natural England has commissioned a series of studies to map and identify high roost sites around the Severn Estuary, with the Gloucestershire and South Gloucestershire sites covered in Phase 4 (Palmer, 2018), with the data provided on the Natural England website¹⁹. These roosts are primarily identified through interviews with WeBS²⁰ counters and the reports provide useful context on the identification of roost sites and importance of different areas to different species. In the Sharpness area, roosts have been identified at the piers at the mouth of Sharpness Docks (roost primarily used only by Gulls), two roosts on the estuary shoreline south of the Docks and at Berkeley Pill. These reports highlight that the adjacent parts of the Severn Estuary SAC/SPA/Ramsar can hold notable concentrations of birds.
- 5.11 Bird surveys have been undertaken to inform the Sharpness allocation (PS36) and cover the period 2018-2021 (EDP, 2021). The results suggest some occasional use of the area allocated for PS36 by species that are qualifying features of the SPA/Ramsar, for example the field directly south of Oakhunger Farm held flocks of 150 Lapwing on two occasions and 10 Dunlin on one occasion. EDP argue that none of the site is functionally-linked to the SPA/Ramsar and they highlight that there is a lack of wetland habitat and that current grazing levels and the presence of many footpaths limit its current potential. The results do seem to indicate that the area is not used consistently.
- 5.12 Walkover surveys (Gratton & Seeney, 2021) were undertaken across the Sharpness allocation (PS36) in 2019 to identify the potential for any on-site water bodies to support the SAC or Ramsar species interests. The walkover survey identified that there was potential for European Eel to occur in two small ponds. Eels are a qualifying species for the Ramsar site and are also potential prey for Sea Lamprey (which are a qualifying feature of both the SAC and the Ramsar). Subsequent eDNA surveys were undertaken at one of the ponds (the other had dried up) confirmed that eels were present.

¹⁹ including [interactive maps](#)

²⁰ WeBS is the Wetland Bird Survey, run by the BTO involving monthly counts by volunteers at key wetland sites

5.13 Given the evidence to indicate the importance of the adjacent parts of the estuary and occasional records of qualifying features from within the allocation site boundaries, in the absence of mitigation it is not possible to rule out adverse effects on integrity from P34 or P36 alone and impacts from loss of supporting habitat/functionally-linked land on the Severn Estuary SAC/SPA/Ramsar. Risks are much less for the Sharpness Docks site (P34) given that a proportion of the site is already developed.

Mitigation

5.14 Policy wording for PS34 requires:

- A non-breeding bird survey to identify any parts of the site which currently constitute important habitat for the SPA/Ramsar site bird populations and set out any necessary mitigation
- Details of potential mitigation measures, such as identifying and securing bird refuge areas within or close to the development area.

5.15 Policy wording for PS36 requires:

- Provision of a 35ha nature reserve adjacent to the Severn Estuary SAC/SPA/Ramsar, with no public access. This will provide wetland habitats including roost sites and feeding habitat.
- Carefully planned construction to ensure no disturbance to birds on functionally linked land including the nature reserve.

5.16 These measures should allow risks to be eliminated. The size and location of PS34 means that is unlikely to be important for the SPA/Ramsar qualifying features and this can be confirmed with survey work. Should surveys identify any risks, such as additional roost sites, then protection for these can be resolved through site design and protection measures assessed at project-level. Any key areas for birds or fish are likely to be very specific and can therefore be addressed at site level.

5.17 For PS36, a much larger land area is involved spreading across multiple fields, with evidence that some of these are at least occasionally used by qualifying features of the SPA/Ramsar. Recognising that in the long-term such areas could play a more important role (as a result of climate change), there is some uncertainty as to the degree of risk. The provision of a nature reserve which provides off-site foraging and roost sites will be mitigation²¹ and should resolve the uncertainty. The nature

²¹ Note that for the avoidance of doubt, the reserve would be mitigation, rather than compensation, as the reserve is providing additional habitat outside the European site to address risks relating to habitat that is also outside the European site, rather than within it. This is therefore not in contradiction to

reserve will be directly adjacent to the European site and will include wetland habitats that can be designed to ensure safe roost sites (unvegetated islands) and feeding habitat (shallow water, mud and wet grassland) for wintering waterbirds.

- 5.18 In order to function effectively, the nature reserve will need to be secured in-perpetuity and be able to provide safe roost sites during high tides. Given climate change and flood risks, the design of the nature reserve and how it will be managed will be important to ensure its long-term viability. Before planning permission is granted the long-term management of the nature reserve and how it will function as mitigation needs to be confirmed and will need to be assessed at project level HRA.
- 5.19 The pond which has been shown to support European Eel lies close to the estuary and is within the '400m no development zone' required to ensure no urban effects. As such the pond can be protected and enhanced as part of the site design.
- 5.20 Subject to the above issues being resolved through the site design and project level assessment, adverse effects on integrity from the loss of supporting habitat/functionally-linked land can be ruled out for the two allocations alone. The risks are so small that further assessment considering in-combination effects with other plans and projects would not change the outcome of the assessment and adverse effects on integrity for all sites from loss of supporting habitat can therefore be ruled out alone or in-combination. For the avoidance of doubt, the Local Plan Review does not identify or require the need to modify the existing sea defences and therefore the effects of coastal squeeze and associated loss of habitat are addressed through the SMP.

Briels. Sections C.5 and C.15 of the Habitats Regulations Handbook provide useful background and context on case law.

6. Appropriate assessment: Recreation

Relevant policies from LSE screening

- 6.1 Screening identified likely significant effects alone for the overall quantum of growth for the District and for different areas within the District, as detailed in the following parts of the Plan:
- Cotswolds Beechwoods SAC: 2.3 An introduction to the development strategy; 2.4 Our towns and villages; 2.5 Housing; 2.6 Local economy and jobs; CP2 Strategic growth and development locations; The Stroud Valleys: vision; The Stonehouse Cluster: vision; Cam & Dursley: vision; Gloucester’s rural fringe.
 - Rodborough Common SAC: 2.3 An introduction to the development strategy; 2.4 Our towns and villages; 2.5 Housing; 2.6 Local economy and jobs; CP2 Strategic growth and development locations; The Stroud Valleys: vision; The Stonehouse Cluster: vision.
 - Severn Estuary SAC/SPA/Ramsar: 2.3 An introduction to the development strategy; 2.4 Our towns and villages; 2.5 Housing; 2.6 Local economy and jobs; CP2 Strategic growth and development locations; The Stonehouse Cluster: vision; Cam & Dursley: vision; Gloucester’s rural fringe; The Berkeley cluster: vision.
- 6.2 Likely significant effects were identified for the following policies alone in relation to recreation impacts and the Severn Estuary SAC/SPA/Ramsar, due to the scale of growth involved and the proximity to the European site boundary:
- The Berkley cluster: vision;
 - PS34 Sharpness Docks;
 - PS36 Sharpness new settlement.
- 6.3 Screening identified likely significant effects in-combination for Rodborough Common SAC as a result of the following policy:
- Delivery Policy EI2: Regenerating existing employment sites.
- 6.4 Screening identified likely significant effects in-combination for the following allocations:
- Cotswolds Beechwoods SAC: G1, G2²², HAR017, PS01, PS02, PS05, PS06, PS10, PS11, PS12, PS16, PS17, PS19a, PS24, PS30, PS37, PS41, PS42, PS44, PS45, PS46, STR065.

²² Note that G2 is not an allocation as such but is identified on the policies map, and is safeguarded to meet the future housing needs of Gloucester City should it be required and provided it is consistent with the

- Rodborough Common SAC: PS01, PS02, PS05, PS06, PS10, PS11, PS12, PS16, PS42, STR065.
- Severn Estuary SAC/SPA/Ramsar: BER016/17, G1, HAR017, PS16, PS17, PS19a, PS24, PS25, PS28, PS30, PS33, PS34, PS35, PS36, PS37, PS42, PS44, PS45, PS46.

Overview of the impacts

6.5 Impacts from recreation take a wide range of forms, including:

- Damage: encompassing trampling and vegetation wear, soil compaction and erosion, trampling can cause direct mortality for some fauna;
- Contamination: including nutrient enrichment (e.g. dog fouling), litter, invasive species;
- Fire: increased incidence and risk of fire;
- Disturbance: involving birds and other animals changing their behaviour, physiological impacts and even mortality impacts as a result of people (and their pets);
- Other: all other impacts, including harvesting and activities associated with site management, for example the difficulties in achieving necessary grazing.

6.6 By **damage** we mean the impacts of footfall (or wheels) on vegetation and soils. Issues relate to vegetation wear, soil compaction and erosion, i.e. largely unintentional consequences from the passage of people, pets and vehicles.

6.7 Mechanical damage to plant tissue causes a loss of vegetation cover, changes in the plant composition of the vegetation and loss of species, a reduction in the genetic diversity of clonal species (woodland species such as Bluebell and Wood Anemone are clonal) and a reduction in plant height. Trampling can cause damage to root systems and increase water run-off, soil erosion and compaction with consequences for decomposition and nutrient cycling. Compaction can also cause a reduction in organic matter, affecting fertility and the water infiltration capacity of the soil. Compaction can also impact on mycorrhizal fungi, affecting plant uptake of nutrients from the soil.

6.8 Other effects of human trampling include the widening of paths and path erosion. Horses, vehicles and bikes are likely to be more damaging than people on foot (Weaver & Dale, 1978) and damage is more severe on slopes compared to flat ground (Weaver & Dale, 1978). Comparison of motorbikes, horses and walkers

approved strategy of the Joint Core Strategy Review. Subject to this, the site will be allocated for a strategic housing development, including residential and community uses.

showed walkers and horses were most damaging going downhill whereas bikes more damaging going uphill (Weaver & Dale, 1978);

- 6.9 In addition, damage can be deliberate, for example vandalism.
- 6.10 **Contamination** covers pollution and nutrient enrichment and also encompasses the spread of non-native species. Dog fouling is the main vector for nutrient enrichment as dog excrement and urine is nutrient-rich. The total volume deposited on sites may be surprisingly large. At Burnham Beeches NNR over one year, Barnard (2003) estimated total amounts of 30,000 litres of urine and 60 tonnes of faeces from dogs.
- 6.11 Recreation is one of the major pathways for the spread of non-native species. A systematic review and meta-analysis by Anderson *et al.* (2015) found that the abundance and richness of non-native species was significantly higher at sites with recreation and showed a consistent pattern across terrestrial and aquatic environments and with a range of different activity types (e.g. horses, walkers). Allen, Brown & Stohlgren (2009) also found a positive relationship between the number of non-native species present on sites and the number of visitors.
- 6.12 Contamination also extends to litter and fly-tipping (the latter being linked to recreation as isolated car-parks and lay-bys are often utilised).
- 6.13 **Fires** can be caused accidentally from discarded cigarettes, by sparks from a campfire, BBQs or from burning a dumped or stolen car, from fireworks, as a result of a controlled fire getting out of control, from discarded bottles in strong sunlight, from children playing with matches or similar, and from deliberate arson. While deciduous woodland and grassland habitats in the UK are relatively robust in terms of wild fire risk, there is scope for localised damage. Furthermore, climate change is likely to increase the risks of wildfire and the types of habitat affected (Jolly *et al.*, 2015). It is likely that wildfire incidence will occur in situations and vegetation communities where it has previously been rare or very limited (anon, 2017) and increasingly site managers will have to take active measures to minimise risks on sites.
- 6.14 **Disturbance** occurs where human activity influences an animal's behaviour or survival. By far the majority of the literature (and there are thousands of studies), focuses on birds (Brawn *et al.*, 2001; Hill *et al.*, 1997; for general reviews see Hockin *et al.*, 1992; Lowen *et al.*, 2008; Showler, 2010; Steven *et al.*, 2011; Whitfield *et al.*, 2008). Disturbance can also affect mammals, herptiles (see Edgar, 2002 for review) and invertebrates.

- 6.15 Public opposition can halt or delay management programmes associated with conservation, such as the control of invasive species (Bremner & Park 2007). It can be a particular problem where livestock grazing is needed and in some cases livestock grazing is untenable on sites popular with dog walkers due to worrying and death of sheep by dogs (e.g. Taylor et al. 2005). Access can also influence the distribution of deer within semi-natural habitats, potentially meaning deer browsing might be concentrated in some areas.
- 6.16 Another potential issue relates to demand for access and pressure for particular interventions, infrastructure or facilities. On sites with current recreation use visitors may well wish for better path surfacing, toilets, cafes, dog bins etc. Where access is not encouraged or there is no access there may be demand from local people and visitors for access to be provided. These issues can bring added pressure for site managers or a need to compromise between nature conservation and recreation.
- 6.17 There is increasing interest in wild foraging. Non-commercial foraging is often seen as a valuable way in which people engage with the natural environment however, commercial foraging can be at a completely different scale and there is concern that it may in some cases be impacting on features of nature conservation importance, although this is debated. Commercial collecting is in some places prohibited, such as in the New Forest.

Site specific risks

The Cotswolds Beechwoods SAC

- 6.18 Impacts of recreation on woodland habitats are varied and are summarised in a range of reviews (e.g. Corney et al., 2008; Lake et al., 2020; Lowen et al., 2008; Marzano & Dandy, 2012; Ryan, 2012).
- 6.19 Natural England's site improvement plan²³ for the Cotswolds Beechwoods SAC identifies public access/disturbance as a threat to the site. The plan states:

“Public use of the Beechwoods has grown considerably over recent years and damage is becoming more widespread. A particular increase has been the use of mountain bikes and horse-riding which use the woods far beyond the limited network of bridleways. This has created numerous additional trackways and so increasing the erosion of the ground flora and potentially opportunities for water erosion. Although the routes away from bridleways are not usually permitted, much of the SAC

²³ Available on the [Natural England website](#)

woodland is NNR or has public access by foot. Hence efforts have been made to provide agreed permissive routes with local bike groups with the aim of minimising damage whilst still allowing some use. This is still experimental, and much will depend on the scale of use and whether the users stick to the permissive routes. This approach could also be tried with horseriders. Additionally, dog walking has increased within the SAC especially at Coopers Hill where car parking is available. This has become a particular issue where professional dog walkers release large numbers of dogs (up to 12) to run uncontrolled through the woods. This causes disturbance to wildlife as well as local nutrification through dog faeces."

6.20 The plan identifies as an action the need for a strategy to address recreation impacts and identifies the National Trust and local authorities alongside Natural England as delivery partners.

6.21 The supplementary conservation objectives for the SAC set targets relating to the soil nutrient status and also specifically to the soil structure around the roots of ancient trees. Trampling from human feet linked to recreation use is identified as an issue. The objectives state that recreational use is increasing.

Rodborough Common SAC

6.22 Natural England's site improvement plan²⁴ for Rodborough Common SAC identifies public access/disturbance as both a current threat and future pressure. The plan states that:

6.23 *"The common is very close to Stroud and recreational use has greatly increased over the past few decades. This has created many new paths and parking areas which cause soil compaction to the detriment of the surrounding sward. Dog faeces is a particular issue which also damages the sward but also poses a real disease risk to the cattle which are vital to the management of the Common. New and proposed housing continues to add to the problem."*

6.24 The supplementary conservation objectives for the SAC include targets relating to conservation measures and the maintenance of management measures which are necessary to maintain the structure, functions and supporting processes for the SAC interest. The supporting text highlights that the management of livestock grazing and public recreation and the main issue for achieving favourable condition of the site.

The Severn Estuary SAC/SPA/Ramsar

²⁴ See the [Natural England website](#)

- 6.25 Natural England's site improvement plan²⁵ identifies public access/disturbance as a current pressure and a threat and prioritises it above all other threats identified. The plan states that:
- 6.26 *"Public access and recreation (including third party activities) may have an impact on bird species sensitive to disturbance, causing displacement from feeding, roosting and moulting areas, and if severe could affect long term survival and population numbers and distributions within the Estuary. There are a wide range of recreational activities within the site (walking, dog walking, horse riding, biking, beach activities, angling, wildfowling, other shooting (eg clay pigeon)) that may cause damage to habitats where pressure is high."*
- 6.27 Recreation impacts for the Severn Estuary therefore primarily will relate to the SPA/Ramsar interest but potentially extend to the SAC interest through habitat damage (e.g. trampling of saltmarsh).

Levels of growth in the Plan and scale of risk

Overview

- 6.28 Visitor survey data for the relevant European sites has been used to establish zones of influence. These reflect where the majority of visitors originate:
- Cotswolds Beechwoods SAC: 15.4km, as set in the emerging recreation mitigation strategy and based on visitor surveys and analysis by Panter and Caals (2019a);
 - Rodborough Common SAC: 3km, as set out in Stroud District Council's existing mitigation strategy²⁶ established in 2015. More recent visitor survey data suggests a slightly larger zone of 3.9km (Panter & Caals, 2019b);
 - Severn Estuary SAC/SPA/Ramsar: 7.7km, as set out in Stroud District Council's existing mitigation strategy²⁷ and based on visitor survey data and analysis by Southgate & Colebourn (2016).
- 6.29 These zones are shown in Map 3. Residential allocations are summarised in Table 3 which highlights which fall within 15.4km of the Cotswolds Beechwoods SAC, within 3.9km of Rodborough Common SAC and within 7.7km of the Severn Estuary SAC/SPA/Ramsar. The levels of growth these allocations represent are also summarised in Table 3. For the avoidance of any confusion, the current mitigation strategy for Rodborough Common uses a 3km zone of influence (which is also

²⁵ See the [Natural England website](#)

²⁶ Available on the [Stroud District Council website](#)

²⁷ Available on the [Stroud District Council website](#)

shown on Map 3). The more recent visitor survey provides the best available and most up to date data and indicates that 75% of visitors originate from 3.9km. We have therefore identified likely significant effects for all allocations that are within or partly within 3.9km of the SAC boundary.

Map 3: Recreation Zones.

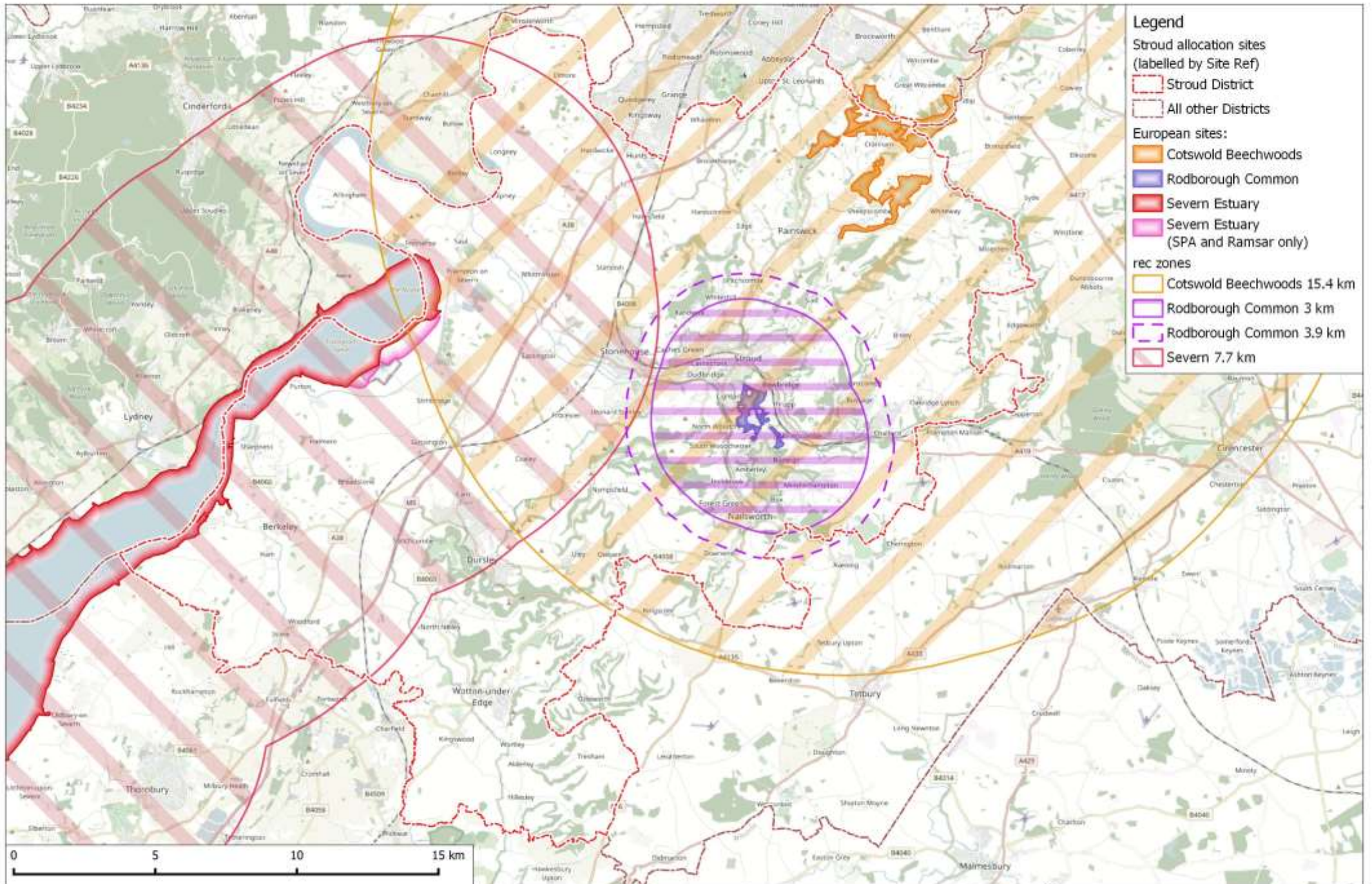


Table 3: Residential allocations and distances to the relevant European sites (measured as the distance from the closest part of the European site to the closest part of the allocation). Grey shading indicates where the distance is within the zone of influence (15.4km for the Cotswolds Beechwoods SAC, 3.9km for Rodborough Common and 7.7km for the Severn Estuary SAC/SPA/Ramsar).

Allocation	No. of Dwellings	Distance (km) from allocation to European site			
		Cotswolds Beechwoods SAC	Rodborough Common SAC	Severn Estuary SAC	Severn Estuary SPA/Ramsar
BER016/17	60	22.4	16.8	1.1	1.1
G1	1350	6.5	9.1	6.8	6.8
G2	2500	3.6	8.1	9.3	9.3
HAR017	10	7.3	10.4	7.6	7.7
PS01	40	7.1	0.4	13.2	13.1
PS02	150	7.2	0.6	13.5	13.4
PS05	80	8.6	2.0	14.8	14.7
PS06	90	10.3	2.5	11.6	11.5
PS10	75	5.3	0.7	10.9	10.9
PS11	25	5.3	0.9	10.9	10.9
PS12	40	5.0	1.0	11.3	11.3
PS16	25	9.3	3.6	7.5	7.4
PS17	10	8.6	4.9	6.0	6.0
PS19a	700	8.2	5.2	5.4	5.4
PS24	900	15.2	9.7	3.9	3.6
PS25	180	15.5	9.5	5.3	5.0
PS28	10	16.9	10.1	7.6	7.3
PS30	750	6.1	8.3	7.1	7.1
PS33	110	21.8	16.3	1.4	1.4
PS34	300	21.1	16.5	0.0	0.0
PS35	70	21.1	16.0	1.6	1.6
PS36	2400	21.5	16.6	0.0	0.0
PS37	1500	13.9	8.7	3.3	2.8
PS38	50	22.4	15.0	11.3	11.3
PS41	20	1.2	6.1	13.0	13.1
PS42	15	9.4	3.8	7.4	7.3
PS44	30	12.2	10.3	1.3	1.4
PS45	10	10.5	8.4	3.2	3.3
PS46	40	10.5	8.5	3.0	3.1
STRO65	20	5.1	1.1	10.8	10.8
Total number of allocations within zone		22	10	19	19
Total dwellings within relevant zone		8380	560	8470	8470

6.30 The figures in Table 3 can be put in context by comparing the level of growth to the current level of housing²⁸ within the zone:

- For the Cotswolds Beechwoods SAC there are around 193,548 dwellings currently within 15.4km (across all local authorities) and the growth (as set out in the Plan) would result in 8380 new dwellings, an increase of around 4%.
- For Rodborough Common SAC there are around 24,529 dwellings currently within 3.9km (across all local authorities) and the growth (as set out in the Plan) would result in 560 new dwellings, an increase of around 2%.
- For the Severn Estuary SAC/SPA/Ramsar there are around 287,846 dwellings currently within 7.7km (across all local authorities) and the growth (as set out in the Plan) would result in 8470 new dwellings, an increase of around 3%.

6.31 It should be noted that these figures reflect current housing levels within the given zone across all authorities, not just Stroud District. For both the Severn Estuary and the Cotswolds Beechwoods this means they extend across a very wide geographic area. The level of growth used to calculate the change is just that for Stroud and therefore does not reflect the in-combination effects of growth across multiple authorities.

6.32 These levels of change represent a clear, marked increase in recreational use as a result of the overall quantum of growth set out in the Plan.

The Berkeley Cluster: PS34 Sharpness Docks and PS36 Sharpness new settlement.

6.33 Likely significant effects were triggered for Severn Estuary SAC/SPA/Ramsar for two allocations alone, these are in close proximity and fall within the Berkeley cluster:

- PS34 Sharpness Docks;
- PS36 Sharpness new settlement.

6.34 Development in very close proximity poses particular risks from recreation as the closer people live to places, the more frequently they tend to visit them and use them for recreation (Weitowitz et al., 2019). These two sites are large allocations directly adjacent to the European site.

6.35 PS34 is an allocation for a mixed use development, comprising dock uses and dock related industrial and distribution uses, including 7 ha expansion land, to the south and a mix of tourism, leisure and recreational development including up to 300

²⁸ Current housing being extracted from postcode data from 2020 showing the number of residential properties

dwellings to the north. P36 is an allocation for a new garden community comprising 10ha employment, 2,400 dwellings by 2040 (5,000 by 2050), local centre including shops and community uses, primary schools and secondary school, associated community and open space uses and strategic green infrastructure and landscaping.

- 6.36 Data from before the pandemic indicates that the average number of visits to the countryside by Gloucestershire residents is 90 per person per year²⁹. Assuming an occupancy rate of 2.4 people per dwelling, the 300 dwellings allocated at PS34 might therefore be expected to generate around 65,000 person visits per year to the countryside. The tourism related development would potentially generate additional use above that. The 2,400 dwellings associated with PS36, using the same calculation might be expected to generate over 500,000 person visits to the countryside per year. These figures are clearly broad and cover all countryside visits, there is also much uncertainty as the pandemic may result in changes to how people visit their local areas. The latest national figures from the Office of National Statistics³⁰ (covering March 2021, just as the lockdown restrictions started to lift) reflect high levels of recreational use of the countryside, with 64% of adults stating they had visited a green and natural space in the last 14 days.
- 6.37 Given the close proximity to the Severn Estuary, both allocations could be expected to result in a marked increase in local use. The Severn Estuary will be an obvious destination for people, as national data shows a strong preference for people to be drawn to coastal sites (Hornigold et al., 2016). There are a range of access routes and paths that provide access to the foreshore, including the Severn Way which runs along the shore. Furthermore, the area around Sharpness is currently relatively rural, meaning there is the potential for marked increases in access in areas that are currently relatively quiet, resulting in particular risks in terms of bird disturbance.
- 6.38 Risks will relate in particular to disturbance to waterbirds. These will largely feed on the intertidal habitats within the estuary and then roost over the high tide period. Use of particular areas will vary with the tide, weather conditions and time of year. Palmer (2018) identifies four roosts in the Sharpness vicinity where marked concentrations of birds can occur:
- Upstream of SARA, Grid reference: SO6756703283, Mixed roost on tidal reedbed, saltmarsh, bare mud and a tidal channel.

²⁹ Data from the [MENE dashboard](#) and the 90 value is the same for both 2018/19 and 2017/18

³⁰ Data from the [People and Nature survey on the .gov website](#)

- Piers at Sharpness Dock, Grid reference: SO6668002142, Mixed roost (mainly gulls) on artificial structures built out into the estuary.
- Pill mouth by STW, Grid reference: SO6662801308, Wildfowl and waders using open water and saltmarsh.
- Pill mouth, Grid reference: SO6660501132, Wildfowl using open water and saltmarsh.

6.39 Palmer (2018) also notes that high tides will completely cover the foreshore of the estuary downstream of Sharpness Docks and this can influence whether or not birds roost at all in that area, such that during high tides the suggestion is that they move to Berkeley Pill. This roost is therefore likely to play a key role in the future in light of rising sea levels and climate change.

Mitigation

PS34 Sharpness Docks

6.40 For Sharpness Docks the Plan review sets out mitigation for recreation impacts that includes:

- Lay-out and design criteria to ensure separation of housing from the European site, including a requirement that the island site' at the north-west of the estate on which up to 50 dwellings, fixed camping and the hotel and holiday lodges will be situated must be delivered in such a way as to ensure that the hotel is adequately screened from the SPA/Ramsar site and that no direct access is possible onto the foreshore from the island.
- A visitor survey of the Severn Estuary SAC/SPA/Ramsar site within the vicinity of Sharpness Docks in order to inform an evaluation of what increase in recreational activity in the SAC/SPA/Ramsar site would result (from the presence of the hotel and campsite in addition to new housing), define management interventions required to ensure no adverse effect and form a basis for future monitoring.
- A management plan for protecting the natural environment (focussed on the interest features of the SAC/SPA/Ramsar site), particularly with regard to recreational pressure;
- Landscaping to create appropriate visual and noise buffers between the development and the SPA/Ramsar site.

6.41 These requirements can be incorporated into the site design and checked at planning application, through project-level HRA. They will be sufficient to address risks relating to recreation impacts and the Severn Estuary SAC/SPA/Ramsar from PS34 site alone. It will also be necessary for the development to contribute to the strategic mitigation scheme to ensure in-combination effects of the development are addressed, with mitigation measures therefore being secured beyond the

Sharpness Docks area. With these measures secured and implemented, adverse effects on-integrity can be ruled out, alone or in-combination.

P36 Sharpness new settlement

6.42 The Plan includes the following mitigation for recreation impacts:

- In excess of 8ha of new suitable alternative natural greenspace (SANG) per 1000 residents (after discounting for levels of current access), provided in addition to other greenspace requirements. This SANG will need to be phased so that there is high quality, fully functional SANG available prior to occupation. Funding for management of the SANG will be secured in-perpetuity.
- The aim of the SANG will to be to provide open and attractive space for recreation, particularly dog walking, for local residents. As such it will provide for a range of routes of at least 2.5km where dogs can be off lead. SANG will be separate from the housing so that the visitor experience is of visiting open countryside. SANG will need to be easily accessible year-round, and in particular designed so that waterlogging and flooding will not restrict access or mean access is limited to narrow raised walkways or boardwalks.
- Development set back at least 400m from the SPA/SAC boundary.
- Provision of a 35ha nature reserve (additional to the SANG) adjacent to the Severn Estuary SAC/SPA/Ramsar, with no public access. This will provide wetland habitats including roost sites and feeding habitat for waterbirds. Funding for management of the nature reserve will be secured in-perpetuity.
- Diversion of the Severn Way to pass in land of the nature reserve, reducing disturbance risks to birds within the Severn Estuary SPA.
- Contribution to the wider mitigation scheme for the Severn Estuary;
- An access and bird monitoring strategy (and programme of monitoring works) agreed with Natural England and the Council to accompany Phase I of the development. This will inform Phase II and check mitigation such as the SANG is working well.

6.43 The above measures have been included in an indicative masterplan/concept plan produced by the proposer³¹.

6.44 The SANG will provide recreation space to deflect access, providing a space for dog walkers, for running, walking and other activities in an area where recreation will not have impacts on the nature conservation interest of the Severn Estuary SAC/SPA/Ramsar. The 8ha per 1000 residents reflects the delivery standards for SANGs used in Thames Basin Heaths and reflects the rate at which new

³¹ Concept Plan ('P16-0821_04-20 dated 25/2/2021).

greenspace should be provided. The figure is adjusted where there is existing access or where there are constraints such that a bigger area is necessary. At Sharpness such an adjustment will be necessary to accommodate the existing access to the area proposed as SANG. The 8ha per 1000 metric was reviewed in depth by Burley (2007) and has become widely established. In the Thames Basin Heaths this level of alternative greenspace is provided alongside other mitigation such as wardening provision on the SPA itself.

- 6.45 While the Thames Basin Heaths SPA is a heathland SPA, the delivery standard is still relevant in a more coastal situation as it relates to the quantum of space necessary to provide meaningful space for dog walking and other such activities in a countryside setting.
- 6.46 In order to function effectively the SANG has to work as an alternative to the estuary and it must therefore be attractive and easy to access. It must provide a realistic alternative and be able to provide the recreation experience that people might seek from the estuary. Expansive views and a sense of openness, with views of the estuary should be effective. SANGs have been provided as mitigation for recreation impacts at other estuary SPA sites in England, for example Dawlish Countryside Park is a SANG for the Exe Estuary SPA/Ramsar and is close to the estuary with good views.
- 6.47 The concept plan that have been produced by the site proposer to date show a nature reserve directly adjacent to the SAC/SPA/Ramsar boundary and this would essentially create an area with no access as a buffer between the development site and the European site. SANG is then proposed between the nature reserve and housing, with additional SANG also associated with the land in Phase II. These indicate sufficient SANG is possible to be incorporated into the site design and the areas proposed form large, contiguous blocks of greenspace. The concept plan³² and associated information provided by the site proposer suggests overall around 96ha of SANG
- 6.48 The effectiveness of the SANG will depend on the quality, which will need to be finalised at the design stage. Principal concerns would relate to the direct proximity of the housing and the degree of water-logging. With the proposed SANG being directly adjacent to the housing it will be important that the design creates an open countryside feel rather than that of urban greenspace. Planting, screening and site design will be important to ensure the housing is screened by vegetation and landscape features. Parts of the SANG are clearly low-lying and will

³² Concept Plan ('P16-0821_04-20 dated 25/2/2021).

be at risk of flooding, and the ground may well be frequently water-logged and muddy. Design details for the SANG have been set out in a proposed recreation avoidance strategy for the site³³ and this shows indicative sections across the SANG with raised walkways, boardwalks and vantage points. While raised walkways might work to reduce any risks of the SANGs effectiveness being compromised by water logging, they will mean footfall is concentrated along linear routes. Such routes may not work so well where there are dog walkers, joggers, family groups and perhaps even cyclists.

- 6.49 While flood risk modelling can indicate how often flood events might occur, how well the SANG works will depend on the extent to which visitor flows can work around the site, with for example provision for dogs to be able to run safely off-lead and footfall not restricted to narrow linear routes. Given the winter is the period when the bird interest is likely to be most vulnerable, the SANG must be able to function effectively through the winter period.
- 6.50 This uncertainty is addressed through the access and bird monitoring strategy that is required in the Plan. Monitoring will provide checks of how the SANG area (provided in Phase I) is functioning and, for example, questionnaires can determine whether water-logging is deterring visitors from certain areas or creating problems. Any such issues can then be addressed through further works on the SANG. Critically, there is further SANG provision as part of Phase II. While Phase II is not part of the Local Plan Review, the phasing of SANG provision will allow some flexibility in how the SANG provision functions overall. For example, it will potentially be possible to segregate users (for example by creating dedicated dog walking routes/areas) or provide additional features. The phasing of SANG provision allows for the opportunity to monitor the first phase and ensure that the later provision complements and builds on the access provision. With climate change likely to result in increased flooding and storminess, Phase II could provide the potential to ensure an overall SANG provision that works in all weather conditions and provides the necessary resilience in the long term.
- 6.51 The Plan sets out the requirement for the diversion of the Severn Way and this is important in that it will deflect access away from the shoreline, ensuring protection for the Berkely Pill roost, the other roosts and the intertidal feeding areas within the SPA/Ramsar. There is potentially some uncertainty regarding the potential for the route to be diverted. This has been reviewed by the site proposer³⁴ in a

³³ Proposed Recreation Avoidance Strategy produced by edp, dated January 2021. Appendix EDP 9 shows Wetlands Park and Diverted Severn Way Indicative Section

³⁴ Sharpness Vale Technical Note – ProW Diversion, edp4792_015

technical note which highlights that changes to the Public Right of Way network can only be brought about as the result of a procedure involving a legal order. These orders are made by local authorities. The Plan states that the the mitigation is required and therefore ensures that the development is dependent upon this mitigation being implemented.

- 6.52 The Sharpness allocation P36 is clearly in a sensitive location and involves a large volume of housing. Detailed checks have been undertaken and mitigation requirements are clearly set out within the Plan. The SANG design has changed in different versions of the concept plan and it will be essential that project level HRA assesses the final SANG design and ensures the SANG is viable and will remain effective in the long-term. With the various mitigation elements set out in the Plan fully implemented, the measures will be sufficient to address risks relating to recreation impacts and the Severn Estuary SAC/SPA/Ramsar from PS34 site alone. It will also be necessary for the development to contribute to the strategic mitigation scheme to ensure in-combination effects of the development are addressed, with mitigation measures therefore being secured beyond the Sharpness area. With these measures secured and implemented, adverse effects on-integrity can be ruled out, alone or in-combination.

Strategic mitigation

- 6.53 For the Cotswolds Beechwoods SAC a strategy (currently in draft) has been produced that will provide a framework under which applications for development likely to have a significant effect on the Cotswolds Beechwoods SAC can be permitted, with measures in place to ensure that adverse effects on the integrity of the SAC can be ruled out. This enables development, while ensuring sufficient protection in place for the SAC. The strategy applies to larger developments, which may affect the integrity of these sites alone, and smaller developments where cumulative effects may be the critical factor.
- 6.54 The strategy applies to a zone of influence of 15.4km from the Cotswolds Beechwoods, with the boundary of the zone adjusted slightly to reflect the local geography and local authority boundaries. The zone therefore encompasses all of Cheltenham and Gloucester administrative boundary and part of Cotswold, Stroud and Tewkesbury. Within the zone of influence, in line with other strategic mitigation schemes such as the Dorset Heaths³⁵, Thames Basin Heaths³⁶ and the Solent³⁷, all new residential growth will be expected to provide mitigation.

³⁵ See [Dorset Council website](#)

³⁶ E.g. [Surrey Heath website](#)

³⁷ See [Bird Aware Solent website](#)

Mitigation will involve Strategic Access Management and Monitoring ('SAMM'), which relate to managing access and engaging with visitors at the SAC. These measures involve increased staffing, signage, interpretation etc.

- 6.55 Alongside SAMM, there is a need to deflect access away from the SAC and provide alternative countryside destinations for people to visit for recreation. Suitable Natural Alternative Greenspace ('SANG') or other infrastructure projects, such as improvements to existing greenspace sites are therefore necessary. These can be provided directly by developers (according to guidelines set out in this strategy) as part of a development or alternatively, where such bespoke SANG is not possible, through contributions.
- 6.56 The strategy is a long-term approach and will be subject to regular review and will provide a rolling programme of mitigation. While the strategy is currently in draft, it is referenced within the Plan and there is a clear commitment in the supporting text for Policy ES6. Once formally in place the strategy will address cumulative, in-combination effects of development across Stroud District and neighbouring authorities and will allow adverse effects on integrity to be ruled out, alone or in-combination.
- 6.57 For Rodborough Common SAC, an interim strategy has been running since 2015³⁸. The Council has worked in partnership with Natural England, the National Trust, the Commons Graziers and Stroud Valleys Project to devise an agreed package of measures which have been funded through developer contributions. These were originally costed to cover the period through to 2021 and a level of growth of around 600 new dwellings. This strategy provides a means to deliver mitigation, but as written does not address the period covered by the Local Plan review. Furthermore, more recent visitor data (Panter & Caals, 2019b) indicates that the zone of influence needs to be extended from the current 3km zone to 3.9km. The current mitigation strategy is referenced within the Plan in the supporting text for Policy ES6. The approach provides an established means to deliver mitigation, but it is necessary that the mitigation approach is updated before adverse effects on integrity can be ruled out.
- 6.58 For the Severn Estuary SAC/SPA/Ramsar a mitigation strategy was formally adopted in December 2017³⁹ and this addresses recreation impacts from growth within Stroud. The strategy was written based on a level of growth of 1795 dwellings coming forward over the period 2018-2031, and was envisaged to be reassessed alongside the Local Plan review. The mitigation strategy provides an

³⁸ See [Stroud District Council website](#) for details

³⁹ See [Stroud District Council website](#) for details

established means to deliver mitigation and ensures the cumulative effects of growth are addressed; it is referenced within the Plan within the supporting text for Policy ES6. However, the Strategy as written it does not currently provide the necessary mitigation to address all the growth in the Plan review and will require updating. It is therefore necessary that the mitigation approach is updated and revised to ensure measures are in place that relate to the locations and scale of growth set out in the Local Plan review before adverse effects on integrity can be ruled out.

7. Appropriate assessment: Water issues

Relevant policies from LSE screening

7.1 Screening identified likely significant effects alone for the Severn Estuary SAC/SPA/Ramsar as a result of the overall quantum of growth within the Plan and as set out in the following policies/sections of the Plan:

- 2.3 An introduction to the development strategy;
- 2.4 Our towns and villages;
- 2.5 Housing;
- 2.6 Local economy and jobs;
- CP2 Strategic growth and development locations;
- The Stroud Valleys: vision
- The Stonehouse Cluster: vision
- Cam & Dursley: Vision
- Gloucester's rural fringe
- The Berkeley cluster: vision;
- Delivery Policy EI2: Regenerating existing employment sites.

7.2 In addition, all individual allocations and Delivery Policy EI2: Regenerating existing employment sites were screened in for likely significant effects in combination.

Introduction

7.3 Water issues include water quality and water quantity (i.e. water availability), and flood management. Run-off, outflow from sewage treatments and overflow from septic tanks can result in increased nutrient loads and contamination of water courses. Abstraction and land management can influence water flow and quantity, resulting in reduced water availability at certain periods or changes in the flow. Such impacts particularly relate to aquatic and wetland habitats.

Severn Estuary SAC/SPA/Ramsar

7.4 Screening identified risks for the Severn Estuary SAC/SPA/Ramsar only.

7.5 It is the role of the Environment Agency to make sure that abstraction is sustainable and does not damage the environment. Water abstraction is managed through a licensing system originally introduced by the Water Resources Act 1963.

7.6 The Environment Agency is the competent authority for the Water Framework Directive and it oversees the publication of River Basin Management Plans which are a requirement of the Directive. These plans set out how the management of

water bodies will be undertaken, the roles of relevant bodies and the steps undertaken to ensure environmental targets are met.

- 7.7 The first River Basin Management Plans were produced in 2009 and then updated in 2015. In the more recent, second cycle river basin management plans the Environment Agency has committed to ensure abstraction licensing strategies and actions fully incorporate all environmental objectives and align with river basin management plans. The Agency will assess all licence applications and only issue licences that adequately protect and improve the environment. They will only grant replacement licences where the abstraction is environmentally sustainable and abstractors can demonstrate they have a continued need for the water and that they will use it efficiently. In addition, for existing licences, the Agency will prioritise actions to protect and improve Natura 2000 sites and address the most seriously damaging abstractions during this plan period. All abstractors in surface water and groundwater bodies where serious damage is occurring or could occur without action should expect that their licences will be constrained over the next 6 years.
- 7.8 Severn Trent Water's Water Resources Management Plan from 2019⁴⁰ includes a 25-year forecast of water demand, taking into account population growth, and it sets out how water resources will be delivered. The Plan states that Severn Trent have recorded a long-term downward trend of water supply over the last 25 years, despite regional population growth - due to a reduction in leakages and reduced water consumption through a water efficiency programme. Severn Trent are continuing to accommodate additional new customers, through management of their network.
- 7.9 The Water Resources Management Plan forecasts that Severn Trent will meet the needs of a predicted population increase of 1.13 million over the next 25 years. The specific ability for Severn Trent to provide a supply to a site is dependent on the site's demand, land use, proximity to the existing network and the currently capacity of the local network. Severn Trent have to undertake a detailed network model analysis to understand specific site requirements. This will have to be undertaken on a site by site basis once a masterplan has been developed. The HRA on the Water Resources Management Plan concluded that likely significant effects on any European sites could be ruled out alone or in combination across its area.

⁴⁰ See [Severn Trent Water website](#)

- 7.10 Water supply was not identified in Natural England's Site Improvement Plan⁴¹ as a current issue or future threat for the SAC/SPA.
- 7.11 These checks indicate that there are no current issues identified with respect to water supply and no such risks from future development for the Severn Estuary SAC/SPA/Ramsar. As such adverse effects alone, or in-combination are eliminated.

Water Quality

- 7.12 Water quality with estuaries, is complex; with a large variety of inputs from numerous different sources and complex interactions between contaminants and key variables such as salinity and dissolved oxygen. Natural England's Site Improvement Plan for the Severn Estuary⁴² identifies water pollution as a current threat and as a future pressure on the site. It states that there is uncertainty over water quality in the Estuary due to diffuse (including agricultural) or direct pollution (e.g. industrial, sewage treatment works, thermal, radioactive). The Site Improvement Plan highlights that macrophytobenthos (benthic macro algae) have been identified in localised hotspots and may be having adverse impacts on the invertebrate communities and the plan highlights the need for better data and information on the issues.
- 7.13 Stroud District Infrastructure Delivery Plan⁴³ confirms that Severn Trent operate the sewerage network for the majority of Stroud, except for a small southern section of the district which is operated by Wessex Water. Wessex Water are the operator for: Sharpness, Sharpness Docks, Newton & Sharpness, Berkeley and Kingswood.
- 7.14 Wastewater is collected in private drains which feed into public sewers and local pumping stations and is treated at Sewage Treatment Works (STW). Although traditionally treated as a combined foul and surface water system, modern developments are required to dispose of surface water sustainably, with an aim for only foul water to enter the wastewater network.
- 7.15 The Infrastructure Delivery Plan includes specific checks of all allocations with respect to waste water. These highlight that the allocations will add foul flows to wastewater networks that are already constrained in places. For some allocations, existing capacity is not available and providing new capacity will involve Environment Agency consent review and/or construction outside of the existing

⁴¹ Available on the [Natural England website](#)

⁴² Available on the [Natural England website](#)

⁴³ Dated 2020 and available on the [Stroud District Council website](#)

STW boundary. Both Severn Trent and Wessex Water have highlighted the sites that they think have the highest risks, where upgrades to local pumping stations and sewage treatment works are likely required to support the sites.

7.16 Severn Trent have growth schemes planned for: Stroud, Stonehouse, Cam and the Gloucester Fringe, however the scheme at Cam does not yet account for the additional flows from the Land at Wisloe. Wessex Water have noted that capacity improvements at Sharpness STW sufficient to accommodate the proposed developments may not be possible within their existing environmental constraints.

7.17 The Infrastructure Delivery Plan therefore recommends that individual developers engage with Wessex Water and or Severn Trent once a masterplan is developed, to enable them to model their network to fully understand any upgrade requirements and further constraints. The details of how wastewater issues will be resolved will therefore need to be checked as part of the project level HRA for the following sites:

- PS19 Stonehouse north-west;
- PS20 Stonehouse Eco Park;
- PS24 Cam North-West;
- PS32 Quedgeley East Extension;
- G1 South of Harwicke;
- G2⁴⁴ Land at Whaddon;
- PS36 Sharpness.

7.18 The need for sustainable drainage is also set out in the general delivery policy ES4 which covers all new development. For each of the sites listed in the bullet points above, as relevant, the Plan contains wording to ensure acceptable management of disposable and surface water including Sustainable Drainage Systems (SuDS) are addressed at the design stage. Wording also cross-references to the Infrastructure Delivery Plan to ensure issues identified in the Infrastructure Delivery Plan are delivered. Specific issues with respect to surface water drainage, SuDS and sewage capacity can only be addressed at the detailed site design stage, and the general biodiversity policy ES6 ensures protection for European sites. The Environment Agency consent review process will ensure that growth cannot take place where there are risks to European sites and with checks in place at project level to ensure issues with surface water run-off and sewage capacity are

⁴⁴ Note that G2 is not an allocation as such but is identified on the policies map, and is safeguarded to meet the future housing needs of Gloucester City should it be required and provided it is consistent with the approved strategy of the Joint Core Strategy Review. Subject to this, the site will be allocated for a strategic housing development, including residential and community uses.

addressed, adverse effects on integrity from waste water can be eliminated, alone or in-combination.

8. Appropriate assessment: Air Quality

Relevant policies from LSE screening

8.1 Likely significant effects alone for air quality impacts and the Cotswolds Beechwoods SAC and Rodborough Common SAC were identified as a result of the overall quantum of growth within the Plan as set out in the following policies/sections:

- 2.3 An introduction to the development strategy;
- 2.4 Our towns and villages;
- 2.5 Housing;
- 2.6 Local economy and jobs;
- CP2 Strategic growth and development locations;
- The Stroud Valleys: vision
- The Stonehouse Cluster: vision
- Cam & Dursley: Vision
- Gloucester's rural fringe
- The Berkeley cluster: vision

8.2 In addition, all individual allocations and Delivery Policy EI2: Regenerating existing employment sites were screened in for likely significant effects in combination.

8.3 Delivery Policy ES5: Air Quality references the need for mitigation for air quality impacts and Following the ruling in People over Wind, mitigation was not taken into account in the screening decision.

Introduction

8.4 Air quality is in general improving across the country, and with the phasing out of diesel and petrol vehicles it is likely to continue to do so. Nonetheless, increased growth within Local Plans can generate increased traffic volumes - as a result of new growth. Where roads are in close proximity to European sites hosting habitats that are sensitive to reduced air quality, the increased traffic can risk prolonged recovery or direct damage.

Summary of atmospheric pollution

8.5 Atmospheric pollutants of concern to sensitive habitats that are derived from vehicles include oxides of nitrogen (NO_x), ammonia (NH₃) and the consequential deposition of nitrogen (N) and acid, which can then lead to changes in species composition and mortality.

- 8.6 It is known that traffic emissions lead to an increase in N, and that this presents a major concern for sensitive habitats. Critical thresholds, beyond which plant communities may change in response to pollutants, have been developed for a range of habitat types, and are available from the [Air Pollution Information Service](#) (APIS). This database is funded and provided by the Centre for Ecology and Hydrology and the UK pollution and conservation agencies including Natural Resources Wales (NRW), the Environment Agency, Northern Ireland Environment Agency, Natural England, the Joint Nature Conservation Committee (JNCC), Scotland and Northern Ireland Forum for Environmental Research (SNIFFER), the Scottish Environment Protection Agency (SEPA), and Scottish Natural Heritage (SNH).
- 8.7 APIS holds data and threshold information specifically in relation to habitat sensitivity rather than human health. Summary information of relevance is given in Table 4.

Table 4: Summary of key air pollutants

Pollutant	Source	National trend	Impact
NO _x	Combustion, mainly vehicles and power stations	Decline (55% since 1986)	Mainly through N deposition, but also gaseous NO _x close to source. Synergy with SO ₂
NH ₃	Natural and anthropogenic; main source is agriculture	Smaller decline which has now flattened	Direct toxicity and N-accumulation

8.8 The main impacts of NO_x and NH₃ are through N deposition and acidification. N deposition can lead to an increase in N loving species at the expense of other species; an increased risk of frost damage in spring, increased sensitivity to drought; increased incidence of pest and pathogen attack and direct damage to sensitive species. The impacts of acid deposition are often indirect, resulting from a change of pH in soils and water. Chemical changes lead to nutrient deficiencies, release of toxins and changes in microbial N transformations.

8.9 The implications of the Local Plan Review in relation to air quality need to be assessed against background trends and the trajectory of vehicle emission improvements. Improvements in vehicular technology and standards that all vehicles are currently being manufactured to, may outweigh impacts from new development. The improvements may be retarded by additional development, but future background levels of nitrogen are expected to decline with Government clean air strategies and the target to stop the sales of new diesel and petrol cars by 2030.

Case decisions and guidance

8.10 Case decisions provide an interpretation of the application of the Habitats Regulations in relation to air pollution and are useful in helping inform the assessment.

Guidance on assessing air quality impacts for designated sites

8.11 The Design Manual for Roads and Bridges (DMRB) has been the standard source of guidance for considering traffic generated air quality impacts. The latest DMRB has a specific section (LA105) on air quality (Highways England, 2019), and this highlights the potential for impacts on sensitive habitats within 200m of a road, and the need for further assessment where changes to the road network or traffic volumes might increase daily traffic flows by 1,000 Average Annual Daily Traffic

(AADT) or more. This is a simple measurement of change, using the total volume of traffic on a road and dividing it by 365 days to give a daily average.

- 8.12 Natural England and its partner UK statutory nature conservation bodies have a specialist air quality technical group known as the Air Quality Technical Advisory Group (AQTAG). This group regularly meets to discuss key issues in relation to air quality concerns for designated sites and will occasionally issue formal advice notes on key topics. AQTAG21 is an advice note that includes reference to a 1% threshold to be used in air quality assessments. This threshold has been consistently used by the statutory nature conservation bodies over a number of years to indicate where an increase in atmospheric pollutant might be deemed significant. The AQTAG21 refers to a 1% threshold in terms of the relevant critical load for the habitat type. Where the pollutant contribution is less than 1% of the critical load, it is deemed to be inconsequential (*de minimis*) and does not warrant further consideration for likely significant effects.
- 8.13 The Institute of Air Quality Management guidance (Holman et al., 2019) contains detailed and relevant advice in relation to the assessment of traffic generated air quality impacts and highlights the 1% threshold as a widely used threshold, below which fluctuations are not likely to be discernible from background fluctuations/measurements, and above which a need for further assessment is identified but does not automatically imply damage will occur.

The Wealden Judgment

- 8.14 Use of the DMRB and AQTAG21 for the purposes of assessing air quality within a plan level HRA was scrutinised through a High Court Judgment⁴⁵ whereby Wealden District Council challenged the HRA conclusions of the Joint Core Strategy (JCS) for Lewes District and South Downs National Park. Whilst the HRA had made conclusions of no likely significant effect on the basis of growth within the JCS alone, the High Court found that the HRA had failed to consider the combined effect of growth within multiple Local Plans in the vicinity of Ashdown Forest, thus necessitating an appropriate assessment. Natural England's advice given at the time deemed both the DMRB 1000AADT and the 1% of the critical load to be thresholds below which further assessment was not required. The Judgment relies on the caveat set out within AQTAG21, which advises that if there was to be a concentration of plans or projects in the same area, at the same time, then there

⁴⁵ ⁴⁵ *Wealden v SSCLG (2017)*

may be cause for case specific assessment and the 1% threshold may not automatically apply.

- 8.15 In light of this case it is important therefore for any HRA to refer to a range of evidence and advice when considering air quality impacts and the DMRB thresholds, the AQTAG21 advice and the findings of the High Court in the Wealden case should be considered together, alongside any other relevant research and evidence.

European Court - Joined Cases C-293/17 and C-294/17

- 8.16 Coöperatie Mobilisation (Joined Cases C-293/17 and C-294/17) are now being generally referred to as “the Dutch Case” for nitrogen deposition. This Netherlands co-joined case brought before the European Court is an important recent case in the interpretation of the European Directives for plans and projects with potential air pollution impacts. The case focusses on agricultural derived nitrogen deposition, and essentially questions whether it is appropriate to rely on strategic measures to alleviate air pollution that may create capacity for individual projects to be approved despite their individual contribution of additional pollutants.
- 8.17 The European Court Judgment focusses on the fact that where a European site is already deteriorating, projects that then worsen the situation should not be approved, unless there are clear and definitive measures underway to restore the situation and maintain favourable conservation status. The Netherlands Government has an approach that relies upon a programme of nitrogen reduction measures. What is key to the assessment of traffic increases relating to Local Plans, and indeed the assessment of any other potential impacts at the plan level, is that the European Court was clear that measures should not be relied upon if they are uncertain, have not yet been carried out, are not certain to take place, or have poor scientific basis.
- 8.18 The case therefore highlights the need to have certainty in any measures being relied upon to allow a conclusion of no adverse effects where they are expected but not yet completed. Importantly, any such measures need to be scientifically certain and secured (in terms of responsibility, finances, practical delivery etc.), rather than just forecasts.

Natural England Guidance

- 8.19 With growing interest from competent authorities in the correct approach to assessing air quality impacts following recent court cases, Natural England has been assisting local planning authorities across the country with advice on what

should be considered within an HRA. Natural England has a number of research reports available within its publications webpage.

- 8.20 Caporn et al (2016) highlights that the majority of designated sites in the UK are currently exceeding their critical loads for N deposition, and this is leading to significant changes in these sensitive habitats as a consequence. There are particular concerns in relation to lower plants, which are highly sensitive to N deposition.
- 8.21 Although habitat responses to N deposition are not fully understood, it is apparent that the relationship between increased pollutants and habitat deterioration (declines in species richness and species composition) is not linear. Critical loads identify a point at which significant vegetation change is likely to occur, but changes do not continue on a linear basis beyond the critical threshold.
- 8.22 Natural England's (2018) guidance on their approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations makes it clear that it is for the competent authority, not Natural England, to acquire enough evidence to support its HRA conclusions. Helpfully, the document highlights that the 1% threshold can be used to establish whether further assessment is necessary, but should not be used to determine whether an adverse effect can or cannot be ruled out.
- 8.23 Importantly, this document indicates that traffic management measures and habitat management measures or interventions that limit the dispersal of traffic emissions might constitute mitigation measures. It is concluded that whilst these measures alone do not enable a conclusion of no adverse effect as the extent of their effectiveness is not yet quantified, they can be considered as additional measures that positively support such a conclusion.

CIEEM guidance

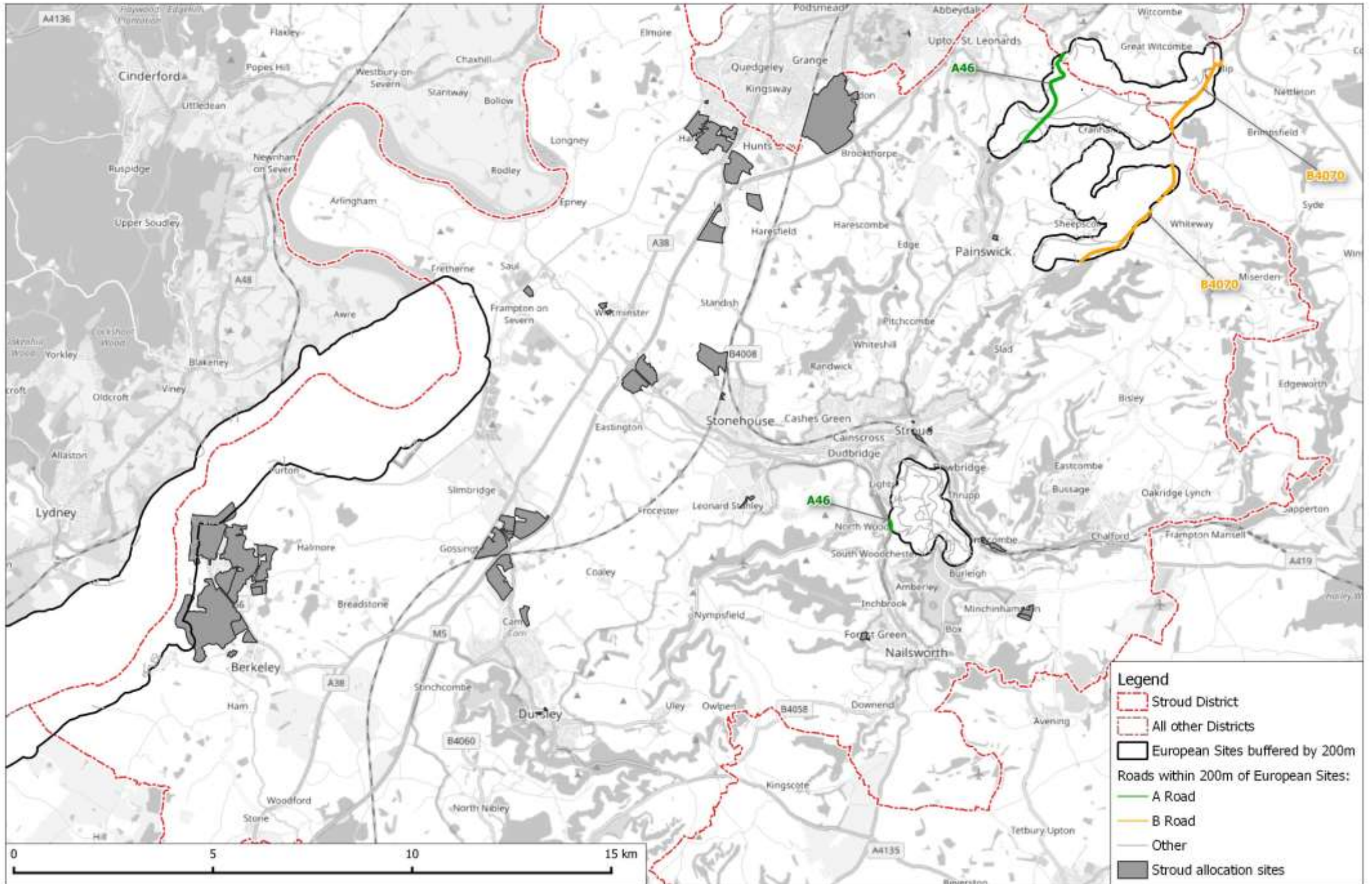
- 8.24 In early 2021 CIEEM published guidance on the ecological assessment of air quality impacts (CIEEM, 2021). The guidance was produced in recognition that the ecological interpretation of air quality modelling is a rapidly shifting and developing field with many important principles still being debated in the legal, air quality science and ecological communities. Given the challenges for the assessment of air quality impacts following Wealden and the Dutch Nitrogen case, the CIEEM guidance recognises that when air quality issues in relation to ecology cannot be dismissed purely on modelled outputs, ecological decisions need to be taken on a case-by-case basis using sound evidence. This advice provides a

consistent approach to understanding such effects, without prescribing the conclusion that should be drawn in any given situation.

Roads and European sites around Stroud District

- 8.25 In Map 4 we show European sites and any roads that are within 200m of European sites. Roads within 200m of European sites are coloured to indicate the road class, with A roads shown as thick purple lines, B roads in green and unclassified roads in orange.
- 8.26 From this map, the relevant road is the A46 which passes within 200m of the Cotswolds Beechwoods SAC (in the vicinity of Cranham Corner) and also within 200m of Rodborough Common SAC near North Woodchester.

Map 4: Roads within 200m of the European Sites.



Site geography and vulnerability to air quality impacts

Cotswolds Beechwoods SAC

- 8.27 Around 2.8km of the A146 runs within 200m of the Cotswolds Beechwoods SAC, with the road bisecting the SAC in places. There is around 38.4ha of the SAC that lies within 200m of the road. The SAC is 590.2ha in size, and therefore around 6.5% of the SAC is within 200m. Checks on aerial images suggest that it is only woodland habitats (rather than the grassland qualifying interest) that fall within 200m of the A146.
- 8.28 The Site Improvement Plan for the Cotswolds Beechwoods SAC⁴⁶, produced by Natural England identifies air pollution as a future threat to the site, and states: *"Nitrogen deposition exceeds site relevant critical loads. High atmospheric nitrogen levels could affect the SAC features through: changes in ground vegetation and mycorrhiza; nutrient imbalance; changes to soil fauna; increase in tall grasses; decline in diversity; increased mineralization; N leaching; or surface acidification"*.
- 8.29 The supplementary conservation advice sets a restore target for air quality and the beech forest feature. The advice states that the lower critical loads for nitrogen and acid deposition are currently being exceeded for this feature of the SAC. For the grassland qualifying feature, a maintain target is set, with the advice indicating that concentrations are currently within the maximum limits set for the habitat. Baseline data from APIS indicates that there is exceedance of the critical load for Nitrogen and Ammonia but not acid deposition for the key habitat of interest, the beech forests (Table 5).
- 8.30 The sensitivity of the woodlands to Nitrogen deposition is not likely to relate to a direct, major effect on tree growth but rather impact other elements such as causing reductions in soil carbon-nitrogen ratio, acidification and increased nitrate leaching (CIEEM, 2021). Understorey plants, fungi and lichen populations may also be negatively affected by nitrogen inputs. It should however be noted that the, the impact of nitrogen deposition on vegetation composition of woodlands is poorly understood, partly due to the strong confounding influence that tree canopy structure places on ground flora species richness, cover etc.

Table 5: Air quality information from APIS for relevant qualifying features. Cells give site concentrations or depositions for relevant nutrient and interest feature (average values for site) and where critical loads/levels are available these are given in the same cell underneath. For acid deposition only no critical loads are given, just the current deposition, however the shading indicates whether the load is exceeded

⁴⁶ See the [Natural England website](#)

(based on the critical load graphs). Orange shading indicates where current levels are above critical load or potentially above the critical load (i.e. above a minimum). Data from APIS⁴⁷.

Site & feature	Nitrogen Deposition kg N/ha/yr	Acid Deposition Nitrogen Sulphur keq/ha/yr	Ammonia Conc. µg/m ³	Annual mean NOx Conc. µg/m ³	Annual mean SO ₂ C Conc. µg/m ³
<i>Asperulo-Fagetum</i> beech forests (H9130)	32.1 10-20	2.3 0,2	1.85 1	9.92 30	0.91 10
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>)	19.2 15-25	1.4 0,2	1.85 Site specific advice should be sought	9.92 30	0.91 10

8.31 APIS provides source attribution data for the site which indicates that road traffic accounts for around 10% of the Nitrogen deposition at the site, with the main Nitrogen sources being livestock farming (30%) and 'Europe import' (20%).

Rodborough Common SAC

8.32 Around 234m of the A146 runs within 200m of Rodborough Common SAC, and at its closest the road is around 170m from the SAC. In total there is around 0.26ha of the SAC that lies within 200m of the road. The SAC is 109.27ha in size, and therefore around 0.2% of the SAC is within 200m. Checks on aerial images suggest that it is only woodland and scrub habitats within the SAC that fall within 200m of the A146.

8.33 The Site Improvement Plan for Rodborough Common⁴⁸, produced by Natural England identifies air pollution as a future threat to the site, and states: "*Nitrogen deposition exceeds the site-relevant critical load for ecosystem protection and hence there is a risk of harmful effects, but the sensitive features are currently considered to be in favourable condition on the site. This requires further investigation*".

8.34 The supplementary conservation advice sets a restore target for air quality and the grassland interest. The advice states that while the critical loads for Nitrogen and acidity are currently within the acceptable range and nitrogen oxides and sulphur dioxide are below the maximum acceptable limits for this habitat, ammonia levels

⁴⁷ <http://www.apis.ac.uk/> accessed 16th May 2021

⁴⁸ See the [Natural England website](#)

are currently above the acceptable level for sensitive lichen containing habitat (Average 1.83 µg NH₃/m³ per year, limit set at 1 µg NH₃/m³ per year). Baseline air quality data for Rodborough Common SAC are summarised in Table 6 drawn from APIS, and these data show that there is exceedance of the minimum critical load for Nitrogen (but note that the Nitrogen critical loads are a range and the deposition is still below the maximum) and Ammonia but not acid deposition.

Table 6: Air quality information from APIS for relevant qualifying features. Cells give site concentrations or depositions for relevant nutrient and interest feature (average values for site) and where critical loads/levels are available these are given in the same cell underneath. For acid deposition only no critical loads are given, just the current deposition, however the shading indicates whether the load is exceeded (based on the critical load graphs). Orange shading indicates where current levels are above critical load or potentially above the critical load (i.e. above a minimum). Data from APIS⁴⁹.

Site & feature	Nitrogen Deposition kg N/ha/yr	Acid Deposition Nitrogen Sulphur keq/ha/yr	Ammonia Conc. µg/m ³	Annual mean NO _x Conc. µg/m ³	Annual mean SO ₂ C Conc. µg/m ³
Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>)	19.1 15-25	1.4 0,2	1.93 1	11.09 30	1.15 10

8.35 APIS provides source attribution data for the site which indicates that road traffic accounts for around 8% of the Nitrogen deposition at the site, with the main Nitrogen sources being livestock farming (34%) and 'Europe import' (29%).

Transport modelling and likely increases in traffic

8.36 Traffic modelling data were provided by Mott MacDonald as part of a commission for Stroud District Council. Data were supplied in the form of GIS data that identified 24-hour Annual Average Daily Traffic (AADT) flows on modelled links (by direction) for the following scenarios:

- 2015 Base derived from the South West Regional Traffic Model (SWRTM), which was validated against observed conditions, including traffic flows and journey times, in March 2015;
- 2040 'Do Minimum' (no Local Plan) representing a situation in which the Stroud Local Plan sites are not developed, but including traffic growth associated with committed developments throughout Gloucestershire.

⁴⁹ <http://www.apis.ac.uk/> accessed 16th May 2021

Total demand is also constrained to forecast levels of growth taken from the DfT's National Trip End Model (NTEM)⁵⁰; and

- 2040 'Do Something' (with the Stroud Local Plan, including highway and sustainable transport mitigation).

8.37 These flows were derived from modelled scenarios that represented weekday peak hours. These were converted to 24hr AADTs using a conversion factor and based on a sample of local traffic flow data. The 24-hour estimates are therefore indicative only. Data for relevant stretches of the A46 within 200m of the European sites are summarised in Table 7.

Table 7: Traffic data summary for selected road locations within 200m of European sites. Figures are modelled AADT, summed for north and south bound traffic. Data provided by Mott MacDonald to inform the HRA.

Location	Grid Ref	Base (2015) AADT	'Do Minimum' AADT	'Do Something' AADT	Difference: 'Do Something' - Base	Difference: 'Do Something' - 'Do Minimum'
Rodborough Common SAC						
A46, North Woodchester	SO843028	14,686	15,700	16,441	1,755	741
Cotswolds Beechwoods SAC						
A46, s. of Cranham Corner	SO880129	6,783	7,293	7,630	847	337
A46, n. of Cranham Corner	SO884133	6,528	6,935	7,254	726	319

8.38 The data in Table 7 would suggest relatively low levels of traffic increase as a result of the Local Plan alone (the difference between the do something and do minimum traffic scenarios). The Design Manual for Roads and Bridges (Highways England, 2019) advises that a value of 1,000 vehicles AADT represents the lowest threshold above which traffic models are likely to represent changes in traffic conditions to a reasonable level of confidence and the figure has in the past (pre the Wealden Judgement) provided an indication of the level of use at which likely significant effects might be identified.

Conclusions: Air Quality

⁵⁰⁵⁰ See Traffic Forecasting Report by Mott MacDonald on the [Stroud District Council website](#) for background and further detail.

- 8.39 For Rodborough Common SAC a tiny area falls within 200m of the A46 and checks of aerial imagery would suggest this does not support the grassland interest of the site but rather is comprised of trees and scrub. Furthermore, at its closest the road is around 170m from the SAC. Air quality impacts will be greatest where the road is in close proximity and decline with distance, out to 200m. As such the effect of the road is likely to be very small. Road traffic accounts for a small proportion of the Nitrogen deposition at the site. Given too, the relatively low levels of traffic forecast as a result of the Stroud Plan, adverse effects on integrity can be ruled out alone. The risks are so small that further assessment considering in-combination effects with other plans and projects would not change the outcome of the assessment and adverse effects on integrity for Rodborough Common can be ruled out alone or in-combination.
- 8.40 For the Cotswolds Beechwoods SAC, the area affected is much larger with over 38ha of woodland habitat within 200m of the A146 and the site is already exceeding critical loads for Nitrogen and Ammonia. Impacts are not likely to result in a loss of woodland habitat, but rather a deterioration and risks for the understorey vegetation and lower plants. Given the low levels of traffic forecast, and the distribution of growth, adverse effects on integrity can be ruled out from the Local Plan alone, however residual risks remain and an in-combination assessment is required.
- 8.41 The traffic modelling referred to above has included development within neighbouring authorities, including all committed development within Gloucestershire. As such the difference between the 'Do Something' scenario and the base (from 2015) provides an indication of the traffic flow in 2040 as a result of development in adopted local plans. This would suggest that overall, in-combination effects of growth (i.e. the Stroud Local Plan review alongside adopted development in other local plans) would be at a maximum around 847 AADT. This is relatively low and below the 1000 AADT figure. As such, given the low proportion of Nitrogen deposition on the site that originates from road traffic, the risks are relatively low.
- 8.42 Traffic on the A146 is likely to be particularly influenced by future housing and employment growth in Tewksbury and Cheltenham⁵¹. While the traffic modelling includes allocations in adopted local plans for these areas, it does not include any

⁵¹ Given the road layout, development in Gloucester City is unlikely to be relevant. This is the conclusion of [recent HRA work](#) for the Gloucester City Plan 2016-2031 which ruled out adverse effects on integrity for the Cotswolds Beechwoods SAC alone or in-combination and states that the site allocations in the Gloucester City Plan are unlikely to significantly increase traffic within 200m of the SAC.

development in the emerging plans. Future development within these areas falls within the Joint Core Strategy (JCS), a partnership between Gloucester City Council, Cheltenham Borough Council and Tewkesbury Borough Council. This sets out a strategic planning framework for the three areas, which was adopted by all three councils in December 2017. The JCS was subject to HRA which concluded no likely significant effects, alone or in-combination, from air quality impacts. The JCS is however currently under review and a draft plan is in preparation, with the Preferred Options consultation anticipated for the summer/autumn 2021. As such the future levels of growth in these areas is as yet uncertain and could be much higher than that used in the modelling presented here. Given that the JCS is yet to even be published as preferred options, it is not relevant to an in-combination assessment and therefore adverse effects on integrity as a result of air quality impacts from the Stroud Local Plan Review and the Cotswolds Beechwoods SAC can be ruled out alone or in-combination.

8.43 Nonetheless, it should be noted that as the JCS review progresses, there may be adverse effects in-combination. This will need to be addressed in HRA work for the JCS review and will also be relevant for any further reviews of the Stroud Local Plan. It is therefore recommended that further evidence gathering is undertaken at an early stage and if necessary, an air quality monitoring strategy and strategic mitigation approach established. A precedent exists in Dorset where an interim air quality strategy⁵² has been agreed with Natural England to address sources of airborne nitrogen-based pollution generated in the vicinity of the Dorset Heathlands as a result of development across two different local authorities in the emerging local plans. Further evidence gathering at the Cotswolds Beechwoods should include levels of Nitrogen deposition at set intervals from the road and modelling to ascertain likely changes in the deposition within the SAC as a result of future traffic changes. This will then inform what measures (such as phasing of housing growth, traffic reductions, speed restrictions) might be required and when.

⁵² Available on the [Bournemouth, Christchurch and Poole Council website](#)

9. Formal Integrity Test

- 9.1 The Stroud District Local Plan (Regulation 19 version) has been subjected to an appropriate assessment and integrity test according to the statutory provisions laid out in the Habitats Regulations 2017 as amended. The outcomes allow the following conclusions to be drawn:

Urban effects

- 9.2 Likely significant effects were identified alone for two allocations adjacent to the Severn Estuary SAC/SPA/Ramsar. These two allocations (PS34 and PS36) are within the Berkeley Cluster, at Sharpness. Mitigation measures have been embedded in the Plan and policy wording ensures that urban effects are addressed at the detailed design stage. Mitigation measures are possible that can be secured at project level to eliminate adverse effects on integrity. The protective wording ensures adverse effects on integrity to the Severn Estuary SAC/SPA/Ramsar from urban effects can be eliminated and as the risks are so small (due to development being set back and barriers put in place between the European site and housing), adverse effects on integrity can be ruled out alone or in-combination.
- 9.3 Likely significant effects were also identified for Rodborough Common SAC with respect to Delivery Policy EI2, which identifies existing employment sites where mixed use development will be permitted. Two sites were within 400m of Rodborough Common SAC and further checks indicate that these are sufficiently separated from the SAC that adverse effects on integrity can be ruled out for the sites alone and the risks are so small that adverse effects on integrity can also be ruled out in-combination.

Loss of supporting habitat/functionally-linked land

- 9.4 Screening identified likely significant effects for the following allocations alone in relation to the Severn Estuary SAC/SPA/Ramsar: PS34 Sharpness Docks and PS36 Sharpness new settlement. For both sites, mitigation measures have been embedded within the plan and address the scale of risk and issues at each location. These various mitigation measures will need to be resolved through site design and project level HRA, in particular ensuring that the nature reserve for PS36 is secured and effective in-perpetuity. Subject to the above issues being implemented, adverse effects on integrity from the loss of supporting habitat/functionally-linked land can be ruled out for the two allocations alone. The risks are so small that further assessment considering in-combination effects with other plans and projects would not change the outcome of the assessment and

adverse effects on integrity for all sites from loss of supporting habitat can therefore be ruled out alone or in-combination.

Recreation

- 9.5 Screening identified likely significant effects alone for the Severn Estuary SAC/SPA/Ramsar as a result of allocations PS34 and PS36 (within the Berkeley Cluster). Likely significant effects were also identified as a result of the cumulative level of growth within the Plan within 15.4km of the Cotswolds Beechwoods SAC, within 3.9km of Rodborough Common SAC and within 7.7km of the Severn Estuary SAC/SPA/Ramsar.
- 9.6 Existing strategic approaches to address recreation impacts are in place for Rodborough Common SAC and for the Severn Estuary SAC/SPA/Ramsar and have been running for a number of years. These provide an established means to address the cumulative impacts from recreation and are cross-referenced within the Plan. However, both require updating to ensure they will deliver sufficient mitigation to address the scale of growth in the Plan. Once updated the mitigation strategies are likely to enable the Council to be confident that adverse effects on integrity, alone or in combination, can be ruled out. A strategic mitigation scheme is also in draft for the Cotswolds Beechwoods SAC. Although currently in draft, it is referenced within the Plan and there is a clear commitment in the supporting text for Policy ES6. Once formally in place the strategy will address cumulative, in-combination effects of development across Stroud District and neighbouring authorities and will allow adverse effects on integrity to be ruled out, alone or in-combination.
- 9.7 For the two Sharpness allocations PS34 and PS36, mitigation measures have been incorporated into the Plan and these will be secured at project level. These measures ensure localised impacts resulting from large amounts of new housing in a single location are addressed. Alongside contributions towards the updated Severn Estuary strategic mitigation scheme these measures will be sufficient to address risks relating to recreation impacts and the Severn Estuary SAC/SPA/Ramsar and ensure adverse effects alone or in-combination are addressed.

Water issues

- 9.8 Detailed assessment indicates there are no risks in relation to water quantity and the River Severn SAC/SPA/Ramsar. With respect to water quality, details of how wastewater issues will be resolved will need to be checked as part of project level HRA for 7 sites and the details can only be addressed at the detailed masterplan

level, which will inform any upgrade requirements or further constraints. The Plan contains relevant wording to ensure these checks are undertaken and development will not proceed without them. As such, it can be ascertained that the Plan will not adversely affect the integrity of the Severn Estuary SAC/SPA/Ramsar alone with respect to water issues. There is no need for mitigation. Given the absence of residual effects, there is no need for an in-combination assessment.

Air quality

- 9.9 Adverse effects on integrity resulting from traffic increases and air quality impacts are ruled out for Rodborough Common SAC alone. The level of traffic forecast, the distance from the main roads and the extent of the site within 200m of the main roads are such that further assessment considering in-combination effects with other plans and projects would not change the outcome of the assessment and adverse effects on integrity for Rodborough Common can be ruled out alone or in-combination.
- 9.10 For the Cotswolds Beechwoods SAC, the area affected is much larger and the site is already exceeding critical loads for Nitrogen and Ammonia. Relatively low levels of traffic are however forecast as a result of the Local Plan review and as such adverse effects on integrity can be ruled out from the Local Plan alone. Residual risks remain and an in-combination assessment is therefore required. Traffic modelling incorporating committed development from adjacent authorities indicates traffic flows will still be relatively low and adverse effects on integrity from the Stroud Local Plan Review in-combination with other plans and projects can therefore be ruled out.

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Appendix 1: Appendix 1: European Site Conservation Objectives

As required by the Directives, 'Conservation Objectives' have been established by Natural England and these define the required ecologically robust state for each European site interest feature. All sites should be meeting their conservation objectives.

When being fully met, each site will be adequately contributing to the overall favourable conservation status of the species or habitat interest feature across its natural range. Where conservation objectives are not being met at a site level, and the interest feature is therefore not contributing to overall favourable conservation status of the species or habitat, plans should be in place for adequate restoration.

Natural England has embarked on a project to renew all European site Conservation Objectives, in order to ensure that they are up to date, comprehensive and easier for developers and consultants to use to inform project level Habitats Regulations Assessments in a consistent way. In 2012, Natural England issued now a set of generic European site Conservation Objectives, which should be applied to each interest feature of each European site.

The generic Conservation Objectives for each European site include an overarching objective, followed by a list of attributes that are essential for the achievement of the overarching objective. Whilst the generic objectives are standardised, they are to be applied to each interest feature of each European site, and the application and achievement of those objectives will therefore be site specific and dependant on the nature and characteristics of the site. The more detailed site-specific information to underpin these generic objectives, provides much more site-specific information, and this detail plays a fundamental role in informing HRA, and importantly gives greater clarity to what might constitute an adverse effect on a site interest feature.

For SPAs the overarching objective is to:

'Avoid the deterioration of the habitats of qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.'

This is achieved by, subject to natural change, maintaining and restoring:

- The extent and distribution of the habitats of the qualifying features.
- The structure and function of the habitats of the qualifying features.
- The supporting processes on which the habitats of the qualifying features rely.
- The populations of the qualifying features.
- The distribution of the qualifying features within the site.

For SACs the overarching objective is to:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site

Conservation objectives inform any HRA of a plan or project, by identifying what the interest features for the site should be achieving, and what impacts may be significant for the site in terms of undermining the site's ability to meet its conservation objectives.

Rodborough Common supplementary advice

The draft supplementary advice for Cotswolds Beechwoods SAC has recently been published by Natural England in December 2018. This is referenced in detail as part of the appropriate assessment, and informs the required mitigation measures for this site. Key points of relevance for the HRA of the Stroud Local Plan from the draft supplementary advice are:

- The habitats are a number of vegetation types and maintaining these and their transitional zones is essential to the diversity of the site.
- Management is critical to maintaining the habitat features. Grazing levels need to maintain a low cover of scrub and retain differing sward heights to attract a range of invertebrate species.
- Eutrophication is a particular threat and can arise from nutrient enrichment through dog waste, chemicals entering the site or a lack of biomass removal through grazing or cutting.
- Recreation pressure is affecting the soils through compaction and erosion. Recreation management is highlighted as a key issue for maintaining the site.
- Spread of non-native or invasive species is a particular concern.
- Connections to the wider landscape through complementary features such as green infrastructure, hedgerows, local wildlife sites, watercourses and grass verges is beneficial for site and wider biodiversity.
- Habitats have some sensitivity to air pollution. Critical loads for Nitrogen, Nitrogen Oxides and Sulphur Dioxide are below acceptable limits, but Ammonia levels are above acceptable limits for maintaining sensitive lichens on site.

Cotswolds Beechwoods supplementary advice

The draft supplementary advice for Cotswolds Beechwoods SAC was published by Natural England in October 2018. This is referenced in detail as part of the appropriate assessment, and informs the required mitigation measures for this site. Key points of relevance for the HRA of the Stroud Local Plan from the draft supplementary advice are:

- A number of veteran trees of importance to the site are outside the site boundary
- Appropriate age structure is affected by a lack of younger trees in some of the underpinning SSSI units
- Soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes, leaving little space for air and water which are essential for root growth. Unless carefully managed, activities such as construction, forestry management and trampling by grazing livestock and human feet during recreational activity may all contribute to excessive soil compaction around ancient trees.
- Recreational pressure including walking and mountain biking can be an issue in this SAC.
- The levels of nitrogen and acid deposition are currently exceeding the critical loads for the woodland habitat.
- The calcareous grassland feature is a very small component of this SAC <1% and is fragmented within the woodland, however, extensive areas of calcareous grassland lie adjacent to the SAC.

Severn Estuary marine site conservation advice

The marine site conservation advice for the Severn Estuary was published in 2009 as a joint publication between Natural England and the Countryside Council for Wales (now Natural Resources Wales). The marine site as a whole includes the Severn Estuary SPA and the Severn Estuary Mor Hafren SAC, which is located much further south down the estuary from the Stroud District. Both sites are also listed as Ramsar sites.

The marine advice includes a detailed description of what is required to maintain the interest features of the site, which will be reviewed as part of the appropriate assessment in terms of whether the targets align with the mitigation strategy in place for the Stroud District.

Appendix 2: Conservation Interest of European Sites

Links in the table cross-reference to the Natural England website and the relevant page with the site’s conservation objectives. In the qualifying features column, for SPAs NB denotes non-breeding and B breeding features. For SACs, # denotes features for which the UK has a special responsibility. The descriptive text is adapted from Natural England’s SIP. For Ramsar sites, the qualifying features and description are drawn from the Ramsar spreadsheet on the JNCC website⁵³, and the link cross-references to the Ramsar site information page. Pressures and threats are from the Site Improvement Plans (SIPs) for each site and are listed in order of priority.

Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
Severn Estuary SAC	H1170 Reefs H1130 Estuaries H1140 Mudflats and sandflats not covered by seawater at low tide H1110 Sandbanks which are slightly covered by sea water all the time S1099 <i>Lampetra fluviatilis</i> : River Lamprey S1095 <i>Petromyzon marinus</i> : Sea Lamprey S1103 <i>Alosa fallax</i> : Twaite Shad H1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)	The Severn Estuary is located between Wales and England in south-west Britain. It is a large estuary with extensive intertidal mud-flats and sand-flats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The subtidal seabed is rock and gravel with subtidal sandbanks. The site also supports reefs of the tube forming worm <i>Sabellaria alveolata</i> . The estuary’s classic funnel shape, unique in the UK, is a factor causing the Severn to have one of the highest tidal ranges in the world. A consequence of the large tidal	Public Access/Disturbance Physical Modification Impacts Of Development Coastal Squeeze Change In Land Management Changes In Species Distributions Water Pollution Air Pollution Marine Consents And Permits: Minerals And Waste Fisheries: Recreational Marine And Estuarine Fisheries: Commercial Marine And Estuarine Invasive Species Marine Litter Marine Pollution Incidents

⁵³ <http://archive.jncc.gov.uk/default.aspx?page=2392>

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Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
		<p>range is an extensive intertidal zone, one of the largest in the UK. The tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. The species-poor intertidal invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders and fish. The site is of importance during the spring and autumn migration periods for waders, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders.</p>	
<p>Severn Estuary SPA</p>	<p>Waterbird assemblage A394(NB) <i>Anser albifrons albifrons</i>: Greater White-fronted Goose A037(NB) <i>Cygnus columbianus bewickii</i>: Bewick Swan A048(NB) <i>Tadorna tadorna</i>: Common Shelduck A051(NB) <i>Anas strepera</i>: Gadwall A149(NB) <i>Calidris alpina alpina</i>: Dunlin A162(NB) <i>Tringa totanus</i>: Common Redshank</p>	<p>As above</p>	<p>As above</p>

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Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
Severn Estuary Ramsar	The Ramsar listing is for a number of criteria relating to estuarine habitat communities and migratory fish (Salmon <i>Salmo salar</i> , Sea Trout <i>S. trutta</i> , Sea Lamprey <i>Petromyzon marinus</i> , River Lamprey <i>Lampetra fluviatilis</i> , Allis Shad <i>Alosa alosa</i> , Twaite Shad <i>A. fallax</i> , and Eel <i>Anguilla anguilla</i>) in addition to the extensive waterfowl assemblage.	As above	As above
Rodborough Common SAC	H6210# Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	Rodborough Common is the most extensive area of semi-natural dry grasslands surviving in the Cotswolds of central southern England, and represents CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> 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.	Undergrazing Public Access/Disturbance Air Pollution
Cotswolds Beechwoods SAC	H6210# Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) H9130 <i>Asperulo-Fagetum</i> beech forests	The Cotswolds Beechwoods represent the most westerly extensive blocks of <i>Asperulo-Fagetum</i> beech forests in the UK. The woods are floristically richer than the Chilterns, and rare plants include red helleborine <i>Cephalanthera rubra</i> , stinking hellebore <i>Helleborus foetidus</i> , narrow-lipped helleborine <i>Epipactis leptochila</i> and wood barley <i>Hordelymus europaeus</i> . There	Invasive Species Deer Invasive Species Disease Public Access/Disturbance Changes In Species Distributions Air Pollution

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Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
		is a rich mollusc fauna. The woods are structurally varied, including blocks of high forest and some areas of remnant beech coppice.	
North Meadow and Clattinger Farm SAC	H6510 Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)	North Meadow & Clattinger Farm Meadows SAC consists of a series of traditionally managed unimproved grasslands within the floodplain of the Upper Thames which continue to be managed as pasture and as hay-meadow. It contains a rich variety of species-rich grassland types including the rare MG4 community for which the SAC is designated as well as a number of notable plant species. These grasslands represent rare and scattered remnants of a much more widespread unimproved grassland habitat before agricultural intensification and extensive gravel quarrying locally were responsible for widespread losses of this habitat and its subsequent fragmentation.	Inappropriate Water Levels Habitat Fragmentation Commons Management Public Access/Disturbance Water Pollution
River Wye SAC	H3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation H7140 Transition mires and quaking bogs S1092 <i>Austropotamobius pallipes</i> : White-clawed (or Atlantic stream) Crayfish S1095 <i>Petromyzon marinus</i> : Sea Lamprey S1096 <i>Lampetra planeri</i> : Brook Lamprey S1099 <i>Lampetra fluviatilis</i> : River Lamprey	The River Wye SAC covers 250km of relatively natural and unmodified main river with a near-natural fluvio-geomorphological regime. The upland reaches, from the source in Powys, has a bryophyte dominated vegetation which progresses into extensive water crowfoot <i>Ranunculus</i> beds in the lowland reaches in England. The lower 23km is transitional	Water Pollution Physical Modifications Invasive Species Hydrological Changes Forestry And Woodland Management Fisheries: Freshwater Fisheries: Fish Stocking Water Abstraction Public Access/Disturbance

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Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
	<p>S1102 <i>Alosa alosa</i>: Allis Shad S1103 <i>Alosa fallax</i>: Twaite Shad S1106 <i>Salmo salar</i>: Atlantic Salmon S1163 <i>Cottus gobio</i>: Bullhead S1355 <i>Lutra lutra</i>: Otter</p>	<p>habitat to the confluence with the Severn Estuary. The river supports a number of internationally important migratory fish, including Atlantic Salmon, Lamprey and Shad species. Otters are widespread.</p>	<p>Air Pollution Inappropriate Scrub Control Undergrazing Transportation And Service Corridors</p>
<p>Wye Valley and Forest of Dean Bat sites SAC</p>	<p>S1303 <i>Rhinolophus hipposideros</i>: Lesser Horseshoe Bat S1304 <i>Rhinolophus ferrumequinum</i>: Greater Horseshoe Bat</p>	<p>This complex of sites on the border between England and Wales contains, at the time of listing, by far the greatest concentration of Lesser horseshoe bat in the UK, totalling about 26% of the national population. It features an exceptional breeding population. In addition, it supports a significant population of Greater horseshoe bat in the northern part of its range. The site contains the main maternity roost and hibernacula for this species in this area.</p>	<p>Physical Modification Public Access/Disturbance Habitat Connectivity</p>
<p>Wye Valley Woodlands SAC</p>	<p>S1303 <i>Rhinolophus hipposideros</i>: Lesser Horseshoe Bat H9130 <i>Asperulo-Fagetum</i> beech forests H9180# <i>Tilio-Acerion</i> forests of slopes, screes and ravines H91J0# <i>Taxus baccata</i> woods of the British Isles</p>	<p>The woodlands of the lower Wye Valley form one of the most important areas for woodland conservation in Britain (comparable with the Caledonian pinewoods, the oceanic oakwoods of Western Britain, the New Forest and the mixed coppices of East Anglia). Semi-natural woodland is extensive and virtually continuous along the Wye gorge and overlie a variety of geological strata and soils. Most woods are a rich mixture of stand-types, which are believed to be similar in composition to the original natural woods of the valley, with some of</p>	<p>Deer Forestry And Woodland Management Invasive Species Habitat Connectivity Species Decline Air Pollution Disease Public Access/Disturbance</p>

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Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
		<p>them rare and very localised eg the Lime-Sessile Oak stands on limestone, Beech stands on both acid and alkaline soils in which Lime (<i>Tilia</i> spp), Elm (<i>Ulmus</i> spp), Oak (<i>Quercus</i> spp) and other species share dominance. <i>Tilio-Acerion</i> (Lime and Ash) and <i>Taxus</i> (Yew) woodlands types are also features of the site. In addition many rare and local plant species are present, including some of the rarest native tree species, e.g. Large-leaved lime (<i>Tilia platyphyllos</i>), Whitebeams (<i>Sorbus</i> spp) and trees close to the edge of their European range, eg Hornbeam (<i>Carpinus betulus</i>) and Beech (<i>Fagus sylvatica</i>). Furthermore, these woods sit in a matrix of unimproved grassland and other semi-natural habitats which support a number of other notable plant species. The Wye Valley Woodlands also provide an important foraging resource for the local population of lesser horseshoe bats which are known to hibernate in various disused mines and structures throughout the woodlands.</p>	
Walmore Common SPA	A037(NB) <i>Cygnus columbianus bewickii</i> : Bewick Swan	Walmore Common SPA is a low-lying basin in the Severn Vale adjacent to the River Severn, which is subject to extensive winter flooding and high, artificially maintained water levels in summer. The site supports a range of unimproved and	Hydrological Changes Changes In Species Distributions Changes In Land Management Office Habitat Availability/Management Public Access/Disturbance Energy Production

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Site	Reason for designation (# denotes UK special responsibility)	Site description	Pressures and threats (from relevant SIP)
		<p>improved wet grasslands overlying a large area of peat and is of botanical and ornithological importance. There is also a large network of ditches that has an important hydrological function as well as supporting a diverse community of flora and fauna. A large part of the catchment is used as a feeding and roosting site for nationally and internationally important numbers of Bewick's Swan (for which the site has been designated a SPA) and for regionally important numbers of other wintering waterfowl.</p>	

Appendix 3: Screening table

The table below sets out the screening of the Stroud District Local Plan Review, Pre-submission Draft Plan for likely significant effects. Orange shaded rows with bold text indicate likely significant effects. Grey shaded rows and bold text indicates section headings within the Plan.

Plan section/policy	Description	LSE screening	Potential risks	Comments
1 Setting the scene				
1.0 What is a Local Plan for	Background and context on role of Local Plans	Administrative text and scene setting. No LSE		
1.1 Putting it into perspective: our district's issues, challenges and needs	Background on priorities and key issues	Administrative text and scene setting. No LSE		
2 Making places the development strategy				
2.1 Stroud District tomorrow: A vision for the future	Broad overview text that sets out general aspirations.	General aspiration. No LSE		
2.2 Strategic objectives for the future	Sets 7 broad objectives.	General statements of broad objectives. No LSE		Strategic Objective SO5 relates to climate change and environmental limits and has positive objectives for nature conservation, for example with respect to maintaining and enhancing the green

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				infrastructure network, sustainable transport and water resources.
2.3 An introduction to the development strategy	Sets out how the vision and objectives will be delivered. Headlines include 12,600 additional dwellings and 73ha of employment land	Screened in. Sets broad levels of growth and overview.	LSE alone in relation to the overall quantum of development and recreation (Cotswolds Beechwoods SAC, Rodborough Common SAC, Severn Estuary SAC/SPA/Ramsar), water issues (Severn Estuary SAC/SPA/Ramsar) and air quality (Cotswolds Beechwoods SAC, Rodborough Common SAC). More localised risks such as loss of supporting habitat and urban effects are location specific and identified for relevant sites/more detailed policy.	Implications of growth and specific allocations are addressed in more detailed policy (e.g. CP2)
2.4 Our towns and villages	Overview of settlement hierarchy, garden villages and distribution of growth	Screened in. Sets broad levels of growth and overview.	LSE alone in relation to the overall quantum of development and recreation (Cotswolds Beechwoods SAC, Rodborough Common SAC, Severn Estuary SAC/SPA/Ramsar), water issues (Severn Estuary	Implications of growth and specific allocations are addressed in more detailed policy (e.g. CP2)

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			<p>SAC/SPA/Ramsar) and air quality (Cotswolds Beechwoods SAC, Rodborough Common SAC). More localised risks such as loss of supporting habitat and urban effects are location specific and identified for relevant sites/more detailed policy.</p>	
<p>2.5 Housing</p>	<p>Summarises housing supply calculations (630 new homes per year over 20 years) and distribution for growth</p>	<p>Screened in. Sets broad levels of growth and overview</p>	<p>LSE alone in relation to the overall quantum of development and recreation (Cotswolds Beechwoods SAC, Rodborough Common SAC, Severn Estuary SAC/SPA/Ramsar), water issues (Severn Estuary SAC/SPA/Ramsar) and air quality (Cotswolds Beechwoods SAC, Rodborough Common SAC). More localised risks such as loss of supporting habitat and urban effects are location specific and identified for relevant sites/more detailed policy.</p>	<p>Implications of growth and specific allocations are addressed in more detailed policy</p>

Plan section/policy	Description	LSE screening	Potential risks	Comments
2.6 Local economy and jobs	Summarises calculations for employment growth and sets out a need for 62 – 72ha over the Plan period.	Screened in. Sets broad levels of growth and overview	LSE alone in relation to the overall quantum of development and recreation (Cotswolds Beechwoods SAC, Rodborough Common SAC, Severn Estuary SAC/SPA/Ramsar), water issues (Severn Estuary SAC/SPA/Ramsar) and air quality (Cotswolds Beechwoods SAC, Rodborough Common SAC). More localised risks such as loss of supporting habitat and urban effects are location specific and identified for relevant sites/more detailed policy.	
2.7 Our local centres	Summarises town centre strategy (relating predominantly to retail) within the Plan	No LSE. Broad overview and proposals could not have any conceivable effect on European sites.		
2.8 Local green spaces and community facilities	Summarises the open space and community strategy within the Plan			Environmentally positive with reference to protection and enhancement of biodiversity. The section does make reference to the mitigation strategy for the Cotswolds Beechwoods SAC. For

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				avoidance of doubt, following People over Wind not taken into account in formal screening and taken to appropriate assessment.
DCP1 Delivering carbon neutral by 2030	Sets target for District to become Carbon Neutral by 2030 and sets requirements for development with respect to travel, energy etc.	No LSE. General plan-wide protection.		Environmentally positive policy and likely to have positive implications for European sites (although not providing specific mitigation).
CP2 Strategic growth and development locations	Policy setting level of growth (12,600 houses, at least 72ha employment) and locations	Screened in. Policy may have significant effects on European sites alone.	LSE alone in relation to urban effects and loss of supporting habitat/functionally-linked land for the Severn Estuary SAC/SPA/Ramsar. LSE alone in relation to the overall quantum of development and recreation (Cotswolds Beechwoods SAC, Rodborough Common SAC, Severn Estuary SAC/SPA/Ramsar), water issues (Severn Estuary SAC/SPA/Ramsar) and air quality (Cotswolds Beechwoods SAC, Rodborough Common SAC).	

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Plan section/policy	Description	LSE screening	Potential risks	Comments
CP3 Our towns and villages settlement hierarchy and settlement boundaries	Sets out detail of settlement hierarchy	No LSE. Hierarchy of settlements rather than specific allocations or levels of growth.		
CP4 Place Making	Sets broad principles for shaping places and enhancing a sense of place	No LSE. Policies lists general criteria for testing acceptability / sustainability of proposals		
CP5 Environmental development principles for strategic sites	Sets broad principles for strategic sites with respect to environmental impact, use of resources etc.	No LSE. Policies lists general criteria for testing acceptability / sustainability of proposals		
CP6 Infrastructure and developer contributions	Cross references to the Infrastructure Delivery Plan and CIL and sets out how development will fund necessary infrastructure.	No LSE. Cannot lead to development or other change.		
3 Making places shaping the future of stroud district				
A spatial vision for stroud district	Summarises the spatial vision and its breakdown in eight mini-visions	No LSE. General statement / aspiration.		
The Stroud Valleys: vision	Sets vision and 10 guiding principles.	Screened in. Sets broad levels of growth and overview.	LSE alone for recreation and the Cotswolds Beechwoods SAC and Rodborough Common SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality	Guiding principles set out provision of up to 525 homes on allocated sites

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	
The Stroud Valleys: Amberley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Amberley as a tier 3b settlement with no allocations. States that limited infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Stroud Valleys: Brimscombe & Thrupp	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Brimscombe & Thrupp as a tier 3a settlement. States that limited infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy.
PS01	Allocation comprising 40 dwellings and employment uses and associated	Screened in.	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.	7.1km from Cotswolds Beechwoods SAC; 0.4km from Rodborough Common SAC;

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Plan section/policy	Description	LSE screening	Potential risks	Comments
	community and open space uses, together with enabling infrastructure.		LSE in-combination for recreation impacts and Rodborough Common SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	13.2km from Severn Estuary SAC; 13.1km from Severn Estuary SPA/Ramsar. Checked on aerial images for risks of urban effects for Rodborough Common and screened out due to distance (440m) and presence of railway line, fields, woodland and existing housing between the site and the SAC.
PS02	Allocation for a development comprising 150 dwellings, canal related tourism development and employment uses and associated community and open space uses, together with enabling infrastructure.	Screened in.	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for recreation impacts and Rodborough Common SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	7.2km from Cotswolds Beechwoods SAC; 0.6km from Rodborough Common SAC; 13.5km from Severn Estuary SAC; 13.4km from Severn Estuary SPA/Ramsar. Checked on aerial images for risks of urban effects for Rodborough Common and screened out due to distance (640m) and presence of railway line, fields, woodland and existing housing between the site and the SAC.
The Stroud Valleys: Chalford	Description and development strategy for settlement	No LSE General policy/criteria relating to settlement		Identifies Chalford as a tier 3a settlement with no allocations. States that limited infill and redevelopment is permitted

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Stroud Valleys: Horsley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Horsley as a tier 3b settlement with no allocations. States that limited infill and redevelopment is permitted inside settlement boundary subject to policy criteria.
The Stroud Valleys: "Manor Village"	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies "Manor Village" as a tier 3a settlement with no allocations. States that limited infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Stroud Valleys: Minchinhampton	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Minchinhampton as a tier 2 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria No growth specifically

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). One allocation screened separately and subject to different policy.
PS05	Allocation for a development comprising up to 80 dwellings and associated community and open space uses and strategic landscaping	Screened in.	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and Rodborough Common SAC.</p> <p>LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>Site is 8.6km from Cotswolds Beechwoods SAC; 2km from Rodborough Common SAC; 14.8km from Severn Estuary SAC; 14.7km from Severn Estuary SPA/Ramsar.</p>
The Stroud Valleys: Nailsworth	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Nailsworth as a tier 2 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). One allocation

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				screened separately and subject to different policy.
PS06	Allocation for a development comprising approximately 90 dwellings and associated community and open space uses, together with enabling infrastructure.	Screened in.	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and Rodborough Common SAC.</p> <p>LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>10.3km from Cotswolds Beechwoods SAC; 2.5km from Rodborough Common SAC; 11.6km from Severn Estuary SAC; 11.5km from Severn Estuary SPA/Ramsar.</p>
The Stroud Valleys: North Woodchester	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Woodchester as a tier 3a settlement. States that limited infill and redevelopment is permitted inside (or exceptionally, adjacent to) settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Stroud Valleys: Stroud	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Stroud as a tier 1 settlement. States that infill and redevelopment is

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Four allocations screened separately and subject to different policy
PS10	Allocation for a development comprising approximately 75 dwellings and town centre uses.	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and Rodborough Common SAC.</p> <p>LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>5.3km from Cotswolds Beechwoods SAC; 0.7km from Rodborough Common SAC; 10.9km from Severn Estuary SAC; 10.9km from Severn Estuary SPA/Ramsar.</p>
PS11	allocated for a development comprising 25 dwellings and town centre uses.	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and Rodborough Common SAC.</p> <p>LSE in-combination for water</p>	<p>5.3km from Cotswolds Beechwoods SAC; 0.9km from Rodborough Common SAC; 10.9km from Severn Estuary SAC; 10.9km from Severn Estuary SPA/Ramsar.</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			<p>issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	
<p>PS12</p>	<p>The current Police Station and former Magistrate's Court, Parliament Street will be redeveloped for up to 45 dwellings and town centre uses.</p>	<p>Screened in</p>	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for recreation impacts and Rodborough Common SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>5km from Cotswolds Beechwoods SAC; 1km from Rodborough Common SAC; 11.3km from Severn Estuary SAC; 11.3km from Severn Estuary SPA/Ramsar.</p>
<p>STR065</p>	<p>Land at Beeches Green will be redeveloped for approximately 20 dwellings, healthcare and extra care accommodation.</p>	<p>Screened in</p>	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for recreation impacts and Rodborough Common SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality</p>	<p>5.1km from Cotswolds Beechwoods SAC; 1.1km from Rodborough Common SAC; 10.8km from Severn Estuary SAC; 10.8km from Severn Estuary SPA/Ramsar.</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	
The Stroud Valleys: Whiteshill & Ruscombe	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Whiteshill & Ruscombe as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Stroud Valleys: Bussage, South Woodchester, Box, Face Lynch, Randwick	Description and development strategy for lower tier settlements	No LSE. General policy/criteria relating to settlements		Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific local needs. No site allocations or specific growth identified.
The Stonehouse Cluster: vision	Sets vision and 10 guiding principles.	Screened in. Sets broad levels of growth and overview.	LSE alone for recreation impacts and the Cotswolds Beechwoods SAC, Rodborough Common SAC and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-	Guiding principles set level of growth with 700 homes on allocated sites and more than 15ha employment land

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			<p>combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	
<p>The Stonehouse Cluster: Eastington</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Eastington as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).</p>
<p>The Stonehouse Cluster: Kings Stanley</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Kings Stanley as a tier 3a settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).</p>
<p>The Stonehouse Cluster: Leonard Stanley</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Leonard Stanley as a tier 3a settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy
PS42	Allocation for a development comprising up to 15 dwellings and associated open space uses.	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and Rodborough Common SAC.</p> <p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>Although outside the current 3km zone of influence used for Rodborough Common, LSE triggered based on more recent visitor survey results. 9.4km from Cotswolds Beechwoods SAC; 3.8km from Rodborough Common SAC; 7.4km from Severn Estuary SAC; 7.3km from Severn Estuary SPA/Ramsar.</p>
PS16	allocated for a development comprising up to 25 dwellings and associated open space uses.	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and</p>	<p>Although outside the current 3km zone of influence used for Rodborough Common, LSE triggered based on more recent visitor survey results.</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			<p>Rodborough Common SAC. LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>9.3km from Cotswolds Beechwoods SAC; 3.6km from Rodborough Common SAC; 7.5km from Severn Estuary SAC; 7.4km from Severn Estuary SPA/Ramsar.</p>
<p>The Stonehouse Cluster: Stonehouse</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Stonehouse as a tier 1 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Three allocations screened separately and subject to different policy</p>
<p>PS17</p>	<p>Allocated for a development comprising up to 10 dwellings, a new community building with car parking and landscaping. The site shall also safeguard</p>	<p>Screened in</p>	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for recreation impacts and the</p>	<p>8.6km from Cotswolds Beechwoods SAC; 4.9km from Rodborough Common SAC; 6km from Severn Estuary SAC;</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
	land to allow for a future pedestrian bridge across the railway at Oldends Lane.		Severn Estuary SAC/SPA/Ramsar.	6km from Severn Estuary SPA/Ramsar.
PS19a	Allocated for a strategic mixed use development, including Employment (5ha), residential (approx. 700 dwellings) and community uses.			Policy wording includes reference to a need for on-site and if appropriate off site work to mitigate impacts to the Severn Estuary SAC/SPA/Ramsar and Cotswolds Beechwoods SAC. Site is 8.2km from Cotswolds Beechwoods SAC; 5.2km from Rodborough Common SAC; 5.4km from Severn Estuary SAC; 5.4km from Severn Estuary SPA/Ramsar.
PS20	42 hectares of primarily agricultural land which will be developed for approximately 10 hectares of business uses associated with the green technology and low carbon sector; a sports stadium with ancillary uses comprising fitness centre, hotel and sports training pitches; a care village and	Screened in	LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	LSE for recreation ruled out based on distance and non-residential. 10km from Cotswolds Beechwoods SAC; 6.6km from Rodborough Common SAC; 3.5km from Severn Estuary SAC; 3.5km from Severn Estuary SPA/Ramsar.

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Plan section/policy	Description	LSE screening	Potential risks	Comments
	<p>open space uses. The development will facilitate a canal cut, towpath and operational uses as part of the restoration of the Stroudwater Canal to navigable uses from Saul Junction to Stroud and beyond.</p>			
<p>The Stonehouse Cluster: Selsey, Middleyard</p>	<p>Description and development strategy for lower tier settlements</p>	<p>No LSE. General policy/criteria relating to settlements</p>		<p>Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific local needs. No site allocations or specific growth identified.</p>
<p>Cam & Dursley: Vision</p>	<p>Sets vision and 10 guiding principles.</p>	<p>Screened in. Sets broad levels of growth and overview.</p>	<p>LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>Guiding principles set out growth of more than 1000 new homes on strategic sites</p>
<p>Cam and Dursley: Cam</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Cam as a tier 1 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy
PS24	Allocation for a strategic housing development including residential (approximately 900 dwellings) and community uses	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	15.2km from Cotswolds Beechwoods SAC; 9.7km from Rodborough Common SAC; 3.9km from Severn Estuary SAC; 3.6km from Severn Estuary SPA/Ramsar.
PS25	Allocation for approximately 180 dwellings and associated community and open space uses	Screened in	<p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds</p>	15.5km from Cotswolds Beechwoods SAC; 9.5km from Rodborough Common SAC; 5.3km from Severn Estuary SAC; 5km from Severn Estuary SPA/Ramsar.

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			Beechwoods SAC and Rodborough Common SAC.	
Cam and Dursley: Coaley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Coaley as a tier 3a settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
Cam and Dursley: Dursley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Dursley as a tier 1 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy
PS27	Allocation for partial redevelopment and re-use for town centre uses	No LSE. Policy the effects of which cannot undermine the conservation objectives (either alone or in combination with		Involves no residential growth. Site is 16.7km from Cotswolds Beechwoods SAC; 9.9km from Rodborough Common SAC; 7.7km from Severn Estuary

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Plan section/policy	Description	LSE screening	Potential risks	Comments
		other aspects of this or other plans or projects		SAC; 7.3km from Severn Estuary SPA/Ramsar.
PS28	Allocation for a development comprising up to 10 dwellings, open space and town centre uses.	Screened in	LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	16.9km from Cotswolds Beechwoods SAC; 10.1km from Rodborough Common SAC; 7.6km from Severn Estuary SAC; 7.3km from Severn Estuary SPA/Ramsar.
Cam and Dursley: Uley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Uley as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
Cam and Dursley: Nympsfield, Stinchcombe	Description and development strategy for lower tier settlements	No LSE. General policy/criteria relating to settlements		Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				local needs. No site allocations or specific growth identified.
Gloucester's rural fringe	Sets vision and 10 guiding principles.	Screened in. Sets broad levels of growth and overview.	LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	Guiding principles set out growth of more than 7500 new homes
The Gloucester fringe: Hardwicke and Hunts Grove	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Hardwicke as a tier 3a bsettlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy
HAR017	Land at Sellars Road will be redeveloped for up to 10 dwellings and open space uses.	Screened in	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds	7.3km from Cotswolds Beechwoods SAC; 10.4km from Rodborough Common SAC; 7.6km from Severn Estuary SAC; 7.7km from Severn Estuary SPA/Ramsar.

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			Beechwoods SAC and Rodborough Common SAC.	
PS30	Strategic allocation for 750 dwellings, alongside the already committed Hunts Grove development area	Screened in	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	6.1km from Cotswolds Beechwoods SAC; 8.3km from Rodborough Common SAC; 7.1km from Severn Estuary SAC; 7.1km from Severn Estuary SPA/Ramsar.
PS32	Employment allocation of 5ha	No LSE.		6km from Cotswolds Beechwoods SAC; 7.4km from Rodborough Common SAC; 7.4km from Severn Estuary SAC; 7.4km from Severn Estuary SPA/Ramsar.
PS43	Employment allocation of 20ha	No LSE.		7.1km from Cotswolds Beechwoods SAC; 7.3km from Rodborough Common SAC; 5.8km from Severn Estuary SAC; 5.9km from Severn Estuary SPA/Ramsar.

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Plan section/policy	Description	LSE screening	Potential risks	Comments
G1	Strategic site allocation for approximately 1350 dwellings and community uses	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>6.5km from Cotswolds Beechwoods SAC; 9.1km from Rodborough Common SAC; 6.8km from Severn Estuary SAC; 6.8km from Severn Estuary SPA/Ramsar.</p>
The Gloucester fringe: Upton St Leonards	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Upton St Leonards as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Gloucester fringe: Brookthorpe, Haresfield	Description and development strategy for lower tier settlements	No LSE. General policy/criteria relating to settlements		Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				local needs. No site allocations or specific growth identified.
G2	Land is safeguarded to meet the future housing needs of Gloucester City should it be required and provided it is consistent with the approved strategy of the Joint Core Strategy Review. <i>Subject to this</i> , the site will be allocated for a strategic housing development, including residential (2500 dwellings) and community uses.	Screened in	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	3.6km from Cotswolds Beechwoods SAC; 8.1km from Rodborough Common SAC; 9.3km from Severn Estuary SAC; 9.3km from Severn Estuary SPA/Ramsar.
The Berkeley cluster: vision	Sets vision and 10 guiding principles.	Screened in. Sets broad levels of growth and overview.	LSE alone for urban effects and the Severn Estuary SAC/SPA/Ramsar. LSE alone for loss of supporting habitat/functionally linked land and the Severn Estuary SAC/SPA/Ramsar. LSE alone for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds	Guiding principles set out growth of up to 300 new homes (Sharpness Docks) and two new garden communities

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			Beechwoods SAC and Rodborough Common SAC.	
The Berkeley cluster: Berkeley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Berkeley as a tier 2 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy
PS33	Allocation for approximately 110 dwellings and associated open space uses and strategic landscaping	Screened in	LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	21.8km from Cotswolds Beechwoods SAC; 16.3km from Rodborough Common SAC; 1.4km from Severn Estuary SAC; 1.4km from Severn Estuary SPA/Ramsar. No LSE from loss of supporting habitat/functionally-linked land and the Severn Estuary SAC/SPA/Ramsar due to distance, small size (around 6ha) and adjacent housing, roads and trees which will

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				<p>mean site unlikely to be used by birds.</p>
<p>BER016/17</p>	<p>Allocation for up to 60 dwellings and open space</p>	<p>Screened in</p>	<p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>22.4km from Cotswolds Beechwoods SAC; 16.8km from Rodborough Common SAC; 1.1km from Severn Estuary SAC; 1.1km from Severn Estuary SPA/Ramsar. No LSE from loss of supporting habitat/functionally-linked land and the Severn Estuary SAC/SPA/Ramsar due to distance, small size (under 3ha), presence of existing buildings and scrub within the site and existing housing adjacent.</p>
<p>The Berkeley Cluster: Newtown & Sharpness</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Newtown & Sharpness as a tier 3a settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				screened separately and subject to different policy
PS34	Allocation for community, tourist and recreation use alongside 300 houses and tourist accommodation.	Screened in	LSE alone for urban effects and the Severn Estuary SAC/SPA/Ramsar. LSE alone for loss of supporting habitat/functionally linked land and the Severn Estuary SAC/SPA/Ramsar. LSE alone for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	21.1km from Cotswolds Beechwoods SAC; 16.5km from Rodborough Common SAC; 0km from Severn Estuary SAC; 0km from Severn Estuary SPA/Ramsar.
PS35	Allocation for partial redevelopment comprising up to 70 dwellings and community use and open space, including the retention and enhancement of existing playing pitches and open space.	Screened in	LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds	21.1km from Cotswolds Beechwoods SAC; 16km from Rodborough Common SAC; 1.6km from Severn Estuary SAC; 1.6km from Severn Estuary SPA/Ramsar. No LSE from loss of supporting habitat/functionally-linked land and the Severn Estuary SAC/SPA/Ramsar due to

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			<p>Beechwoods SAC and Rodborough Common SAC.</p>	<p>distance, small size (around 5ha), and presence of existing buildings within the site.</p>
<p>The Berkeley cluster: Sharpness new settlement PS36</p>	<p>Allocation for a new garden community comprising employment, residential, retail, community and open space uses and strategic green infrastructure and landscaping. Approximately 2400 dwellings (5000 by 2040 subject to Local Plan Review), 10ha employment land and schools.</p>	<p>Screened in</p>	<p>LSE alone for urban effects and the Severn Estuary SAC/SPA/Ramsar. LSE alone for loss of supporting habitat/functionally linked land and the Severn Estuary SAC/SPA/Ramsar. LSE alone for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>21.5km from Cotswolds Beechwoods SAC; 16.6km from Rodborough Common SAC; 0km from Severn Estuary SAC; 0km from Severn Estuary SPA/Ramsar.</p>
<p>The Berkeley cluster: Slimbridge</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Slimbridge as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g.</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				Policy CP2). Two allocations screened separately and subject to different policy
The Berkeley cluster: Wisloe new settlement PS37	Allocation for a new garden community comprising employment, residential, retail, community and open space uses and strategic green infrastructure and landscaping. Approximately 1500 dwellings, 5ha employment land and a schools.	Screened in	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	13.9km from Cotswolds Beechwoods SAC; 8.7km from Rodborough Common SAC; 3.3km from Severn Estuary SAC; 2.8km from Severn Estuary SPA/Ramsar.
The Berkeley cluster: Cambridge, Newport, Stone	Description and development strategy for lower tier settlements	No LSE. General policy/criteria relating to settlements		Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific local needs. No site allocations or specific growth identified.
The Severn Vale: vision	Sets vision and 10 guiding principles.	No LSE. General policy/aspirations		Guiding principles set out broad principles with no strategic allocations or set levels of growth.

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Plan section/policy	Description	LSE screening	Potential risks	Comments
The Severn Vale: Frampton on Severn	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Frampton-on-Severn as a tier 3a settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). One allocation screened separately and subject to different policy
PS44	Allocation for 30 dwellings and open space uses	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>12.2km from Cotswolds Beechwoods SAC; 10.3km from Rodborough Common SAC; 1.3km from Severn Estuary SAC; 1.4km from Severn Estuary SPA/Ramsar.</p> <p>No LSE from loss of supporting habitat/functionally-linked land and the Severn Estuary SAC/SPA/Ramsar due to distance, small size (under 4ha), and adjacent housing.</p>
The Severn Vale: Whitminster	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Whitminster as a tier 3a settlement. States that infill and redevelopment is

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations screened separately and subject to different policy
PS45	Allocation for approximately 10 dwellings, open space uses and strategic landscaping.	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and the Severn Estuary SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>10.5km from Cotswolds Beechwoods SAC; 8.4km from Rodborough Common SAC; 3.2km from Severn Estuary SAC; 3.3km from Severn Estuary SPA/Ramsar.</p>
PS46	Allocation for up to 40 dwellings, open space uses and strategic landscaping.	Screened in	<p>LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC.</p> <p>LSE in-combination for recreation impacts and the Severn Estuary</p>	<p>10.5km from Cotswolds Beechwoods SAC; 8.5km from Rodborough Common SAC; 3km from Severn Estuary SAC; 3.1km from Severn Estuary SPA/Ramsar.</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
			<p>SAC/SPA/Ramsar. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	
<p>The Severn Vale: Arlingham, Longney, Saul</p>	<p>Description and development strategy for lower tier settlements</p>	<p>No LSE. General policy/criteria relating to settlements</p>		<p>Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific local needs. No site allocations or specific growth identified.</p>
<p>The Wotton cluster: Vision</p>	<p>Sets vision and 10 guiding principles.</p>	<p>No LSE. General policy/aspirations</p>		<p>Guiding principles set out broad principles with no strategic allocations or set levels of growth.</p>
<p>The Wotton cluster: Kingswood</p>	<p>Description and development strategy for settlement</p>	<p>No LSE. General policy/criteria relating to settlement</p>		<p>Identifies Kingswood as a tier 3a settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2). Two allocations</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				screened separately and subject to different policy
PS38	Allocations comprising 50 dwellings and open space uses and strategic landscaping	Screened in.	LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	22.4km from Cotswolds Beechwoods SAC; 15km from Rodborough Common SAC; 11.3km from Severn Estuary SAC; 11.3km from Severn Estuary SPA/Ramsar.
PS47	10ha employment allocation	Screened in.	LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	21.9km from Cotswolds Beechwoods SAC; 14.7km from Rodborough Common SAC; 9.4km from Severn Estuary SAC; 9.4km from Severn Estuary SPA/Ramsar.
The Wotton Cluster: North Nibley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies North Nibley as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Wotton Cluster: Wotton-under-edge	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Wotton-under-edge as a tier 2 settlement. States that infill and redevelopment is

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Wotton Cluster: Hillesley	Description and development strategy for lower tier settlements	No LSE. General policy/criteria relating to settlements		Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific local needs. No site allocations or specific growth identified.
The Cotswold cluster: vision	Sets vision and 10 guiding principles.	No LSE. General policy/aspirations		Guiding principles set out broad principles with no strategic allocations or set levels of growth.
The Cotswold cluster: Bisley	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Bisley as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).

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Plan section/policy	Description	LSE screening	Potential risks	Comments
The Cotswold cluster: Miserden	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Miserden as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Cotswold cluster: Oakridge Lynch	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Oakridge Lynch as a tier 3b settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g. Policy CP2).
The Cotswold cluster: Painswick	Description and development strategy for settlement	No LSE. General policy/criteria relating to settlement		Identifies Painswick as a tier 2 settlement. States that infill and redevelopment is permitted inside settlement boundary subject to policy criteria. No growth specifically allocated in this policy. Overall plan-level growth taken to appropriate assessment (e.g.

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				Policy CP2). One allocation screened separately and subject to different policy
PS41	Allocation for up to 20 dwellings and open space uses.	Screened in	LSE in-combination for recreation impacts and the Cotswolds Beechwoods SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.	1.2km from Cotswolds Beechwoods SAC; 6.1km from Rodborough Common SAC; 13km from Severn Estuary SAC; 13.1km from Severn Estuary SPA/Ramsar.
The Cotswold cluster: Eastcombe, Cranham, Sheepscombe	Description and development strategy for lower tier settlements	No LSE. General policy/criteria relating to settlements		Identifies the small and very small settlements and potential for very limited infill and re-development to meet specific local needs. No site allocations or specific growth identified.
4 Homes and communities				
CP7 Inclusive communities	Broad policy relating to provision of sustainable and inclusive communities	No LSE. General policy with no specific growth or locations or other change		
DGP2 Supporting older people and people with mobility issues	Broad policy relating to ageing population and specific needs of people with mobility problems	No LSE. General policy with no specific growth or locations or other change		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
CP8 New housing development	Broad policy relating to addressing local housing needs and design of housing	No LSE. General policy with no specific growth or locations or other change		
CP9 Affordable housing	Broad policy setting targets for affordable housing	No LSE. General policy with no specific growth or locations or other change		
CP10 Gypsies, travellers and travelling showpeople sites	Broad policy setting target for the number of pitches/plots and general criteria	No LSE. General policy with no specific growth or locations or other change		
Delivery Policy DHC1: Meeting housing need within defined settlements	Broad policy relating to housing within settlement boundaries	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy DHC2: Sustainable rural communities	Broad policy relating to small housing schemes outside settlement boundaries	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy HC2: Providing new homes above shops in our town centres	Broad policy relating to homes above shops	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy HC3: Self-build and custom build housing provision	Broad policy relating to self-build and custom build	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy HC4: Local housing need (exception sites)	Broad policy relating to exception sites	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
Delivery Policy DHC3: Live-work development	Broad policy relating to live-work development	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy HC1: Detailed criteria for new housing developments	Lists criteria for new housing developments	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy DHC4: Community-led housing	Broad policy relating to housing schemes initiated by local communities	No LSE. General policy with no specific growth or locations or other change		
Delivery Policy HC5: Replacement dwellings	Broad policy with criteria for replacement dwellings	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy HC7: Annexes for dependents or carers	Broad policy with criteria for sub-division of residential dwellings	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy HC8: Extensions to dwellings	Broad policy with criteria for extensions	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy DHC5: Wellbeing and healthy communities	Broad policy relating to wellbeing and health, particularly targeted towards major development proposals	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
Delivery Policy DHC6: Protection of existing open spaces and built and indoor sports facilities	Broad policy relation to loss, devaluation or loss of accessibility to open spaces and sports facilities	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy DHC7: Protection of new open spaces and built and indoor sports facilities	Broad policy setting standards for range of green space and outdoor facilities	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		Environmentally positive policy and could provide incidental benefit to European sites
5 Economy and infrastructure				
CP11: New employment development	Broad policy setting criteria for new employment development	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
CP12: Retail and town centres	Describes retail hierarchy and sets out broad situations in which retail provision supported	No LSE. General policy with no specific growth or locations or other change.		
Cp13: Travel and transport	Broad policy relating to travel and transport infrastructure	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		Environmentally positive policy and could provide incidental benefit to European sites through promoting sustainable transport options.
Delivery Policy EI1: Key employment sites	Lists employment sites that will be retained for B and E Class Uses.	No LSE. General policy that protects existing sites rather than propose further growth.		

Plan section/policy	Description	LSE screening	Potential risks	Comments
<p>Delivery Policy EI2: Regenerating existing employment sites</p>	<p>Lists employment where regeneration will be permitted for mixed-use development</p>	<p>Screened in</p>	<p>Screened in on a precautionary basis as residential development or changes in use to sites could result in impacts to European sites. LSE alone for urban effects and Rodborough Common SAC; LSE in-combination for recreation and Rodborough Common SAC, Cotswolds Beechwoods SAC. LSE in-combination for water issues and the Severn Estuary SAC/SPA/Ramsar and LSE in-combination for air quality and the Cotswolds Beechwoods SAC and Rodborough Common SAC.</p>	<p>Ham Mills is around 350m from Rodborough Common SAC; Daniels Industrial Estate is just over 700m from Rodborough Common SAC; Stafford Mills is around 380m from Rodborough Common; Lodgemore & Fromehall Mills are around 930m from Rodborough Common. The Kingswood Orchestra Works is well away from any European site (the Severn Estuary SAC/SPA/Ramsar is the closest at just over 14km).</p>
<p>Deliver Policy EI2a: Former Berkley Power Station</p>	<p>Policy stating that existing site will be retained for office, B2 and B8 employment uses and operations/uses associated with the decommissioning of the nuclear power station</p>	<p>No LSE. General policy with no specific growth or change.</p>		<p>The power station site is directly adjacent to the Severn Estuary SAC/SPA/Ramsar and the location is sensitive (e.g. recreation by employees, lighting, water discharge, construction etc.). Policy is however general and proposes no specific changes to the site. The supporting text mentions a bid to hold a prototype fusion power plant and associated</p>

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				facilities, however this is not part of the Plan.
Delivery Policy EI4: Development at existing employment sites in the countryside	Broad policy with criteria for development of rural employment sites	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy EI5: Farm and forestry enterprise diversification	Broad policy with criteria for development that forms part of a farm or forestry diversification scheme	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy EI6: Protecting individual and village shops, public houses and other community uses	Broad policy with criteria for development involving the loss of shops, pubs, village halls and other community facilities	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Deliver Policy EI7: Primary shopping areas	Broad policy with criteria for change of use from class E	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Deliver Policy EI8: Town centres	Broad policy with criteria for change of use from class E within town centres	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy EI9: Floorspace thresholds for impact assessments	Sets thresholds for when impact assessments are required and what these will include	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
Delivery Policy EI10: Provision of new tourism opportunities	Broad policy identifying for tourism related development	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy EI11: Providing sport, leisure, recreation and cultural facilities	Broad policy setting criteria for new sports, cultural, leisure and recreational facilities or improvements to such facilities	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy EI12: Promoting transport choice and accessibility	Broad policy citing sustainable transport hierarchy and covering transport infrastructure, accessibility, parking standards etc.	No LSE. General policy with no specific growth or locations or other change.		
Delivery Policy DEI1: District-wide mode-specific strategies	Commits the Council to work with partners to develop District-wide strategies for sustainable travel opportunities.	No LSE. General policy with no specific growth or locations or other change.		
Delivery Policy EI13: Protecting and extending our walking and cycling routes	Broad policy providing protection and extensions to the walking and cycling routes.	No LSE. General policy with no specific growth or other change.		Potentially positive for the environment. Policy does list a number of proposed routes that may be implemented in the future. These do not however form part of the Plan and therefore not part of the assessment.
Delivery Policy EI14: Provision and protection of rail stations and halts	Policy supporting new passenger rail station and re-	No LSE. Policy could not have any conceivable adverse effect on any European site		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
	opening of branch line to passenger services.			
Delivery Policy EI15: Protection of freight facilities at Sharpness Docks	Policy provides support for development at the Docks to explore the use of the railhead for freight.	No LSE. General policy with no specific growth or other change.		
Delivery Policy EI6: Provision of public transport facilities	Broad policy to cater for needs of bus and taxi operators.	No LSE. General policy with no specific growth or locations or other change.		
6 Our environment and surroundings				
CP14: A 'checklist' for quality design and development	Broad policy setting range of criteria relating to sustainability	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		Environmentally positive policy which may have incidental benefit to protect European sites, e.g through SuDS, sustainable transport etc.
CP15: A quality living and working countryside	Broad policy protecting the separate identity of settlements and quality of the countryside	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy ES1: Sustainable construction and design	Broad policy with criteria relating to zero carbon, construction, cycle parking and electric vehicle charging	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		Environmentally positive policy
Delivery Policy ES2: Renewable or low carbon energy generation	General policy setting criteria for renewable or low carbon energy generation	No LSE. Policy listing general criteria for testing the		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
		acceptability / sustainability of a proposals		
Delivery Policy DES3: Heat supply	General policy requiring development proposals to include a communal low-temperature heating system where viable	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy ES3: Maintaining quality of life within our environmental limits	Broad policy with criteria relating to minimising the risks of adverse impacts to air, land and water quality	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		Environmentally positive policy. Includes requirements to minimise pollution but no criteria relate to mitigation specifically or to European sites, and therefore no risks with respect to <i>People vs Wind</i> .
Delivery Policy ES4: Water resources, quality and flood risk	Broad policy with criteria relating to water issues	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		Environmentally positive policy. Includes requirements that may incidentally help to protect European sites, but no criteria relate to mitigation specifically and therefore no risks with respect to <i>People vs Wind</i> .
Delivery Policy ES5: Air Quality	General policy requiring certain development to provide a formal air quality assessment. Policy covers environmental impacts and human health.	Screened in.	Air quality considered at appropriate assessment	Policy references potential need for mitigation for air quality impacts, including reference to the HRA. Following the ruling in People over Wind, mitigation cannot be taken into account in the

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Plan section/policy	Description	LSE screening	Potential risks	Comments
				screening decision. Air quality addressed at appropriate assessment.
Delivery Policy DES1: Conversion of redundant agricultural, forestry and rural buildings	General policy relating to conversion of certain types of buildings outside of settlement boundaries	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy ES6: Providing for biodiversity and geodiversity	General policy setting requirements for Biodiversity Net Gain, compliance with the mitigation hierarchy and protection of designated sites.	Screened in.	Mitigation for recreation impacts considered at appropriate assessment	Environmentally positive policy which provides general plan-wide environmental protection. Supporting text cross references mitigation strategies for recreation impacts (Rodborough Common SAC, Severn Estuary SAC/SPA/Ramsar and the Cotswolds Beechwoods SAC). Following the ruling in People over Wind, mitigation cannot be taken into account in the screening decision. Recreation impacts addressed at appropriate assessment.
Delivery Policy ES7: Landscape character	General policy addressing landscape issues and the Cotswolds AONB.	No LSE. General plan-wide environmental protection policy		

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Plan section/policy	Description	LSE screening	Potential risks	Comments
Delivery Policy ES8: Trees, hedgerows and woodlands	Policy seeks where appropriate to enhance and expand the District's tree, hedgerow and woodland resource and protects these assets.	No LSE. General plan-wide environmental protection policy		
Delivery Policy ES9: Equestrian development	General policy relating to equestrian development proposals	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy ES10: Valuing our historic environment and assets	General policy with criteria to preserve, protect or enhance Stroud District's historic environment	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy ES11: Maintaining, restoring and regenerating the District's canals	Policy supporting the restoration and other functional improvements to the District's canals.	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy ES12: Better design of places	Broad policy relating to design quality.	No LSE. Policy listing general criteria for testing the acceptability / sustainability of a proposals		
Delivery Policy DES2: Green Infrastructure	General policy providing protection to existing GI and improvements.	No LSE. General plan-wide environmental protection policy		Environmentally positive policy. Which may provide incidental protection to European sites, but no criteria relate to mitigation specifically or to European sites, and therefore no risks with respect to <i>People vs Wind</i> .

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Plan section/policy	Description	LSE screening	Potential risks	Comments
Delivery Policy ES16: Public art contributions	General policy requiring proportionate contributions towards the provision of publicly accessible art and design works	No LSE. General policy with no specific growth or locations or other change.		
7 Delivery and monitoring				
Delivery and monitoring	Sets out monitoring requirements, housing trajectory etc.	No LSE. Administrative text		
8. Appendices				
Appendices A-E	Appendices cover proposed changes to policies map, parking standards and glossary	No LSE. Administrative text		