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Standish Neighbourhood Plan Habitat Regulations Assessment

Standish Parish Council

February 2021

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Quality information

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1. Introduction

Background to the Project

- 1.1 AECOM was appointed by Standish Parish Council to assist in undertaking a Habitats Regulations Assessment (HRA) for the Standish Neighbourhood Plan (NP). This is to inform Standish Parish Council and Stroud District Council of the potential effects of NP development on internationally designated wildlife sites and how they are being addressed in the Neighbourhood Plan, for the Council to take into account in their formal HRA.
- 1.2 The objectives of the assessment are to:
- Identify any aspects of the Neighbourhood Plan that would cause an adverse effect on the integrity of international sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs)) including, as a matter of Government policy, Ramsar sites, either in isolation or in combination with other plans and projects, and
 - To advise on appropriate policy mechanisms for delivering mitigation where such effects were identified.
- 1.3 The HRA of the Standish Neighbourhood Plan is required to determine if there are any realistic linking pathways present between an international site and the Neighbourhood Plan and where Likely Significant Effects cannot be screened out, an analysis to inform Appropriate Assessment to be undertaken to determine if adverse effects on the integrity of the international sites will occur as a result of the Neighbourhood Plan alone or in combination.

Legislation

- 1.4 The UK left the EU on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 (“the Withdrawal Act”). This established a transition period, which is currently set to end on 31 December 2020. The Withdrawal Act retains the body of existing EU-derived law within our domestic law. During the transition period EU law applies to and in the UK. The most recent amendments to the Habitats Regulations – the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – make it clear that the need for HRA will continue after the end of the Transition Period.
- 1.5 Under the Regulations, an appropriate assessment is required, where a plan or project is likely to have a significant effect upon an international site, either individually or in combination with other projects. The Directive is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) (the “Habitats Regulations”).

The legislative basis for Appropriate Assessment

Habitats Directive 1992

Article 6 (3) states that:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.”

Conservation of Habitats and Species Regulations 2017 (as amended)

With specific reference to Neighbourhood Plans, Regulation 106(1) states that:

‘A qualifying body which submits a proposal for a neighbourhood development plan must provide such information as the competent authority [the Local Planning Authority] may reasonably require for the purposes of the assessment under regulation 105 [which sets out the formal process for determination of ‘likely significant effects’ and the ‘appropriate assessment’]...’.

- 1.6 It is therefore important to note that this report has two purposes:

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- To assist the Qualifying Body (Standish Parish Council) in preparing their plan by recommending (where necessary) any adjustments required to protect international sites, thus making it more likely their plan will be deemed compliant with the Conservation of Habitats and Species Regulations 2017 (as amended); and
 - On behalf of the Qualifying Body, to assist the Local Planning Authority to discharge their duty under Regulation 105 (in their role as 'plan-making authority' within the meaning of that regulation) and Regulation 106 (in their role as 'competent authority').
- 1.7 As 'competent authority', the legal responsibility for ensuring that a decision of 'likely significant effects' is made, for ensuring an 'appropriate assessment' (where required) is undertaken, and for ensuring Natural England are consulted, falls on the local planning authority and the Neighbourhood Plan examiner. However, they are entitled to request from the Qualifying Body the necessary information on which to base their judgment and that is a key purpose of this report.
- 1.8 The Habitats Regulations applies the precautionary principle¹ to international sites SAC, SPA, and Ramsar. For the purposes of this assessment candidate SACs (cSACs), proposed SPAs (pSPAs) and proposed Ramsar (pRamsar) sites are all treated as fully designated sites.
- 1.9 Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. This contrasts with the SEA Directive which does not prescribe how plan or programme proponents should respond to the findings of an environmental assessment; merely that the assessment findings (as documented in the 'environmental report') should be 'taken into account' during preparation of the plan or programme. In the case of the Habitats Directive, plans and projects may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.
- 1.10 In 2018, the 'People Over Wind' European Court of Justice (ECJ) ruling² determined that 'mitigation' (i.e. measures that are specifically introduced to avoid or reduce the harmful effects of a plan or project on international sites) should not be taken into account when forming a view on likely significant effects. Mitigation should instead only be considered at the appropriate assessment stage. Appropriate assessment is not a technical term: it simply means 'an assessment that is appropriate' for the plan or project in question. As such, the law purposely does not prescribe what it should consist of or how it should be presented; these are decisions to be made on a case by case basis by the competent authority. An amendment was made to the Neighbourhood Planning Regulations in late 2018 which permitted Neighbourhood Plans to be made if they required appropriate assessment.
- 1.11 Over the years the phrase 'Habitats Regulations Assessment' has come into wide currency to describe the overall process set out in the Conservation of Habitats and Species Regulations from screening through to Imperative Reasons of Overriding Public Interest (IROPI). This has arisen in order to distinguish the process from the individual stage described in the law as an 'Appropriate Assessment'. Throughout this report we use the term Habitats Regulations Assessment for the overall process.

Report Layout

- 1.12 **Chapter 2** of this report explains the process by which the HRA has been carried out. **Chapter 3** explores the relevant pathways of impact. **Chapter 4** summarises the Test of Likely Significant Effects of the policies and site allocations of the Plan considered 'alone' and 'in-combination'. (The Test of Likely Significant Effects itself is undertaken in **Appendix B**). **Chapter 5** contains the Appropriate Assessment for any linking impact pathways that could not be screened out from potentially resulting in a Likely Significant Effect. **Chapter 6** contains the conclusion and a summary of recommendations.

¹ The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: "When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis".

People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

² Case C-323/17

2. Methodology

Introduction

- 2.1 Figure 1 below outlines the stages of HRA according to current Ministry of Housing, Communities and Local Government guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the Plan until no significant adverse effects remain.

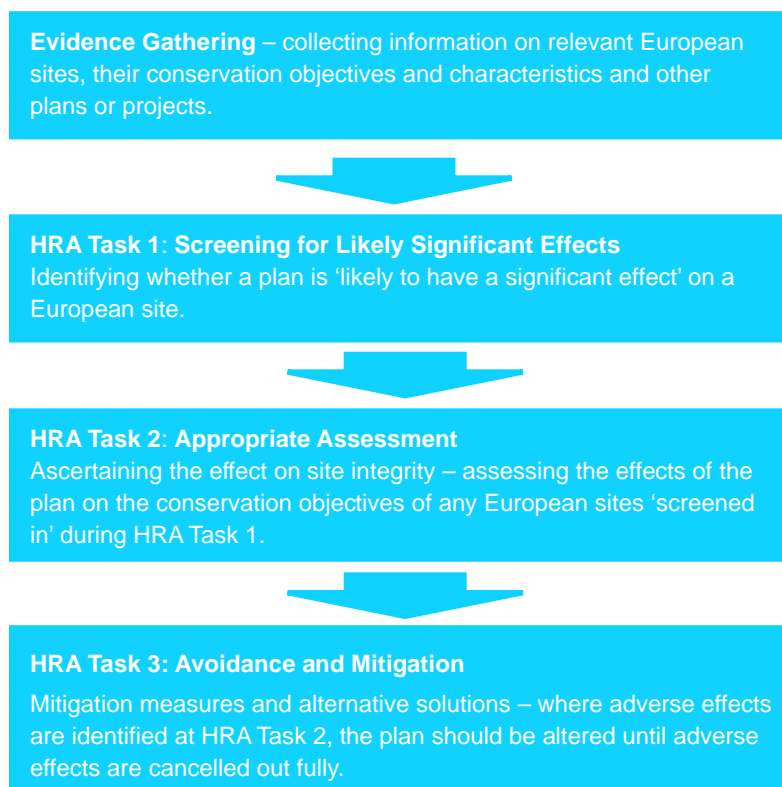


Figure 1 Four Stage Approach to Habitats Regulations Assessment (GOV.UK, 2019)

HRA Task 1: Test of Likely Significant Effects (LSE)

- 2.2 Following evidence gathering, the first stage of any HRA is a Likely Significant Effect (LSE) test; essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

"Is the project, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?"

- 2.3 The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon European sites, usually because there is no mechanism for an adverse interaction with European sites. This stage is undertaken in Chapter **Error! Reference source not found.** of this report.

HRA Task 2: Appropriate Assessment (AA)

- 2.4 Where it is determined that a conclusion of 'no likely significant effect' cannot be drawn, the analysis has proceeded to the next stage of HRA known as Appropriate Assessment. Case law has clarified that 'Appropriate Assessment' is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to Appropriate Assessment rather than determination of likely significant effects.

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- 2.5 During July 2019 the Ministry of Housing, Communities and Local Government published guidance for Appropriate Assessment³. Paragraph: 001 Reference ID: 65-001-20190722 explains: *'Where the potential for likely significant effects cannot be excluded, a competent authority must make an appropriate assessment of the implications of the plan or project for that site, in view of the site's conservation objectives. The competent authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the habitats site. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of over-riding public interest and if the necessary compensatory measures can be secured'*.
- 2.6 As this analysis follows on from the screening process, there is a clear implication that the analysis will be more detailed than undertaken at the Screening stage and one of the key considerations during Appropriate Assessment is whether there is available mitigation that would entirely address the potential effect. In practice, the Appropriate Assessment takes any policies or allocations that could not be dismissed following the high-level screening analysis and analyses the potential for an effect in more detail, with a view to concluding whether there would be an adverse effect on integrity (in other words, disruption of the coherent structure and function of the European site(s)).
- 2.7 A decision by the European Court of Justice⁴ concluded that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the Likely Significant Effects or 'screening' stage of HRA. The UK is no longer part of the European Union. However, as a precaution, it is assumed for the purposes of this HRA that EU case law regarding Habitat Regulations Assessment will still be considered informative jurisprudence by the UK courts. That ruling has therefore been considered in producing this HRA.
- 2.8 Also, in 2018 the Holohan ruling⁵ was handed down by the European Court of Justice. Among other provisions, paragraph 39 of the ruling states that *'As regards other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, ... typical habitats or species must be included in the appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area'* [emphasis added]. This has been taken into account in the HRA process.

HRA Task 3: Avoidance and Mitigation

- 2.9 Where necessary, measures are recommended for incorporation into the Plan in order to avoid or mitigate adverse effects on European sites. There is considerable precedent concerning the level of detail that a Neighbourhood Plan document needs to contain regarding mitigation for recreational impacts on European sites. The implication of this precedent is that it is not necessary for all measures that will be deployed to be fully developed prior to adoption of the Plan, but the Plan must provide an adequate policy framework within which these measures can be delivered.
- 2.10 When discussing 'mitigation' for a Neighbourhood Plan document, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the details of the mitigation measures themselves since the Local Development Plan document is a high-level policy document. A Neighbourhood Plan is a lower level constituent of a Local Development Plan.

Confirming Other Plans and Projects That May Act 'In Combination'

- 2.11 It is a requirement of the Regulations that the impacts of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the European site(s) in question.
- 2.12 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation; i.e. to ensure that those projects or plans (which in themselves may have minor impacts) are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in-combination assessment is therefore of greatest relevance when the plan or project would otherwise be screened out because its individual contribution is inconsequential.

³<https://www.gov.uk/guidance/appropriate-assessment#what-are-the-implications-of-the-people-over-wind-judgment-for-habitats-regulations-assessments> [Accessed: 07/01/2020].

⁴ People Over Wind and Sweetman v Coillte Teoranta (C-3.23/17).

⁵ Case C-461/17.

The Scope

- 2.13 There is no guidance that dictates the physical scope of an HRA of a plan i.e. there is no standing guidance concerning how far from the parish one should look to consider impacts on European sites. Therefore, in considering the physical scope of the assessment we were guided primarily by the identified impact pathways rather than by arbitrary “zones”, i.e. a source-pathway-receptor approach. Current guidance suggests that the following international sites be included in the scope of assessment:
- All sites within the Neighbourhood Plan Area (the area covered by the Neighbourhood Plan); and
 - Other sites shown to be linked to development within the Neighbourhood Plan Area through a known “pathway” (discussed below).
- 2.14 The HRA process takes into account impacts of development on internationally designated sites (otherwise known as European Sites), as stipulated by the Governmental guidance on appropriate assessment. Impacts on other tiers of designated wildlife site fall beyond the scope of HRA.
- 2.15 Briefly defined, impact pathways are routes by which a change in activity within the plan area can lead to an effect upon an international site. In terms of the second category of international site listed above, MHCLG guidance states that the AA should be “*proportionate to the geographical scope of the [plan policy]*” and that “*an AA need not be done in any more detail, or using more resources, than is useful for its purpose*” (MHCLG, 2006, p.6).
- 2.16 **Note** that the inclusion of an international sites or pathway below does not indicate that an effect is expected but rather that these are pathways that will be investigated.

3. Internationally Designated Sites

Cotswold Beechwoods SAC

Introduction

- 3.1 The Cotswold Beechwoods SAC lies within the Cotswold National Character Area and is part of a much larger area of woodland that forms a mosaic with adjacent unimproved and semi improved pasture along much of the length of the Cotswold scarp (the western edge of the Cotswold Hills).
- 3.2 Part of the SAC forms the Cotswolds Commons and Beechwoods National Nature Reserve managed by Natural England and other partner organisations, and the more extensive Cotswold Commons and Beechwoods SSSI.
- 3.3 The SAC consists of ancient beech woodland, some secondary woodland and a small area of unimproved grassland. The underlying Jurassic limestone rock largely influences the vegetation type and the varied soil depth, aspect and slope add to the diversity. These woodlands are considered amongst the most diverse and species-rich of their type, whilst the grassland typifies the unimproved calcareous grassland for which the Cotswolds are famous.
- 3.4 The woods are structurally varied, mostly high forest with some areas of remnant beech coppice and pollard. The canopy is dominated by beech, with ash, pedunculate oak and some areas of sycamore. Characteristic understorey species include holly and yew but regenerating ash, sycamore and beech often accounts for much of the shrub layer. The ground flora can be rich in places with other areas consisting mainly of bramble, dog's mercury and ivy. There are a number of rare orchid species on the site and the woods include an exceptional variety of invertebrate species, including rare wet flush mollusc species. The limestone geology and hydrology of the area has resulted in a number of tufa formations.
- 3.5 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, tor-grass and sheep's-fescue, with quaking grass and a wide range of other flowering herbaceous plants. Typically these include cowslips, common bird's-foot-trefoil, common rock-rose, wild thyme and field scabious.⁶

Reasons for designation

- *Aspero-Fagetum* beech forests
 - The Cotswold Beechwoods SAC represent the most westerly extensive blocks of *Asperulo Fagetum* beech forest in the UK. The woods are floristically richer than the Chilterns, and rare plants include red helleborine *Cephalanthera rubra*, stinking hellebore *Helleborus foetidus*, narrow-lipped helleborine *Epipactis leptochila* and wood barley *Hordelymus europaeus*. There is a rich mollusc fauna. The woods are structurally varied, including blocks of high forest and some areas of remnant beech coppice.
 - The woodland corresponds to predominantly NVC type W12 *Fagus sylvatica-Mercurialis perennis* with smaller areas of W14 *Fagus sylvatica-Rubus fruticosus*, W7 *Alnus glutinosa-Fraxinus excelsior-Lysimachia nemorum* and W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* woodland.
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites)
 - These grasslands are usually found on thin, well-drained, lime-rich soils associated with chalk and limestone. They occur predominantly at low to moderate altitudes in England and Wales, extending locally into upland areas in northern England, Scotland and Northern Ireland. Most of these calcareous grasslands are maintained by grazing.

⁶ Natural England, Cotswold Beechwoods SAC Conservation Objectives Supplementary Advice, available online at: <http://publications.naturalengland.org.uk/publication/6200815333146624> [accessed 04/12/2020]

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- A large number of rare plants are associated with this type of grassland as well as various bryophytes and lichens. The invertebrate fauna is also noteworthy.
- This priority habitat type comprises *Festuco-Brometalia* calcareous grasslands containing important orchid assemblages and/or rare orchids. These sites host a rich suite of orchid species, and/or an important population of at least one orchid species considered uncommon, or one or several orchid species considered to be rare, very rare or exceptional.
- The habitats at Cotswold grasslands correspond to the NVC types CG3 *Bromus erectus* grassland, CG4 *Brachypodium pinnatum* grassland and CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland.

Current Threats and Pressures⁷

- Invasive species
- Deer
- Disease
- Recreational Pressure
- Changes in species distribution
- Air pollution: impact of atmospheric nitrogen

Conservation Objectives⁸

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

- *The extent and distribution of qualifying natural habitats*
- *The structure and function (including typical species) of qualifying natural habitats, and*
- *The supporting processes on which qualifying natural habitats rely'*

Rodborough Common SAC

Introduction

- 3.6 Rodborough Common SAC sits on the Jurassic Limestone of the Cotswolds just south of Stroud within the Cotswolds National Character Area. Its close proximity to Stroud, open access, attractive views and position within the Area of Outstanding Natural Beauty means it is exposed to a high degree of recreational pressure. It 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).
- 3.7 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. The wide variation of soil depth, slope and aspect defines the varied species composition and character of the vegetation which is primarily that of unimproved, herb-rich, calcareous grassland.
- 3.8 The sward on the central plateau is maintained by free-roaming cattle and heavy public use, 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. There are a high number of orchid species (including frog, fragrant, bee, common spotted, early purple and pyramidal orchid) and the rare pasque flower. 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.

⁷ <http://publications.naturalengland.org.uk/publication/6276086220455936?category=5755515191689216> [accessed 04/12/2020] Available online at:

⁸ <http://publications.naturalengland.org.uk/publication/6200815333146624> [accessed 04/12/2020] Available online at:

- 3.9 The fact that the site is registered Common Land brings a number of complexities to the management of the site including having multiple graziers with commoners rights, the difficulties in grazing unfenced areas where there is significant recreational use due to the proximity to urban areas and particularly the difficulties with grazing animals in areas which are used by dog walkers.

Reasons for designation

- Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia), (includes the priority feature 'grassland with important orchid rich sites').
 - These grasslands are usually found on thin, well-drained, lime-rich soils associated with chalk and limestone. They occur predominantly at low to moderate altitudes in both England and Wales, extending locally into upland areas in northern England, Scotland and Northern Ireland.
 - Most of these calcareous grasslands are maintained by grazing animals. A large number of rare plants are associated with this type of grassland as well as various bryophytes and lichens. The invertebrate fauna can also be noteworthy. Those calcareous grasslands which contain important orchid assemblages and/or rare orchids are a priority SAC feature. These grasslands host a rich suite of orchid species, and/or an important population of at least one orchid species considered uncommon, or one or several orchid species considered to be rare, very rare or exceptional.
 - Rodborough Common is the most extensive area of semi-natural dry grasslands surviving in the Cotswolds of central southern England. The SAC habitat type comprises CG3 *Bromus erectus* grassland and CG5 *Bromus erectus* – *Brachypodium pinnatum* grassland vegetation types. 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.⁹

Current threats and pressures¹⁰

- Undergrazing
- Recreational Pressure
- Air pollution: risk of atmospheric nitrogen deposition

Conservation Objectives¹¹

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

- *The extent and distribution of qualifying natural habitats*
- *The structure and function (including typical species) of qualifying natural habitats, and*
- *The supporting processes on which qualifying natural habitats rely'*

Severn Estuary SPA, SAC & Ramsar

Introduction

- 3.10 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 *Sabellaria alveolata*.
- 3.11 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

⁹ *Natural England Rodborough Common SAC Conservation Objectives Supplementary Advice*, Available online at: <http://publications.naturalengland.org.uk/publication/4660867861839872> [accessed 04/12/2020]

¹⁰ *Natural England Rodborough Common SAC Site Improvement Plan*, Available online at: <http://publications.naturalengland.org.uk/publication/5525408413908992?category=5755515191689216> [accessed 04/12/2020]

¹¹ *Natural England Rodborough Common SAC Conservation Objectives*, Available online at: <http://publications.naturalengland.org.uk/publication/4660867861839872> [accessed 04/12/2020]

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community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders and fish.

- 3.12 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.¹²

Reasons for SPA designation¹³

- 3.13 The Severn Estuary qualifies under Article 4.1 of the Birds Directive by regularly supporting an internationally important wintering population of Bewick's swan (*Cynus columbianus bewickii*), an Annex 1 species. During the period 1988/89 to 1992/93, a mean peak of 289 birds (1.7% of the north-west European population, 4.1% of the British wintering population) used the estuary.
- 3.14 The Severn Estuary qualifies under Article 4.2 as a wetland of international importance by regularly supporting in winter over 200000 waterfowl. In the five year period 1988/89 to 1992/93 the average peak count was 68026 waterfowl comprising 17502 wildfowl and 50524 waders.
- 3.15 The Severn Estuary also qualifies under Article 4.2 by regularly supporting in winter internationally important numbers of the following 5 species of migratory waterfowl (average peak means for the period 1988/89 to 1992/93): 3002 European white-fronted goose (*Anser albifrons albifrons*) (1.0% NW European, 50% British), 2892 shelduck (*Tadorna tadorna*) (1.2% NW European, 3.9% British), 330 gadwall (*Anas strepera*) (2.8% NW European, 5.5% British), 41683 dunlin (*Calidris alpina*) (2.9% east atlantic flyway, 9.6% British) and 2013 redshank (*Tringa totanus*) (1.3% East Atlantic Flyway, 2.6% British).
- 3.16 The Severn Estuary also supports nationally important wintering populations of a further 10 species: 3977 wigeon (*Anas Penelope*) (1.6% British), 1998 teal (*Anas crecca*) (2.0% British), 523 pintail (*Anas acuta*) (2.1% British), 1686 pochard (*Aythya farina*) (3.8% British), 913 tufted duck (*Aythya fuligula*) (1.5% British), 227 ringed plover (*Charadrius hiaticula*) (1.0% British), 781 grey plover (*Pluvialis squatarola*) (3.7% British), 3096 curlew (*Numenius arquata*) (3.4% British), 246 whimbrel (*N. phaeopus*) (4.9% British total) and 3 spotted redshank (*Tringa erythropus*) (1.5% British).
- 3.17 In addition, during passage periods, the estuary supports nationally important numbers of ringed plover (spring migration: 442 birds (1.4% British passage), autumn migration: 1573 birds (5.2% British passage), dunlin (spring: 3510 birds (1.7% British passage), autumn: 5500 birds (2.7% British passage), whimbrel (*Numenius phaeopus*) (spring: 246 birds (4.9% British passage), autumn: 66 birds (1.3% British passage), and redshank (autumn: 2456 birds (2% British passage).
- 3.18 The Severn Estuary also supports a nationally important breeding populations of a migratory species. In 1993 2040 pairs of lesser black backed gulls (*Larus fuscus*) bred on the islands of Steep Holm and Flat Holm within the Estuary. This represents 2.5% of the British total.

Reasons for SAC designation¹⁴

- 3.19 The Estuary includes a wide diversity of habitats including Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by sea water at low tide, Atlantic salt meadows, and Reefs, which are identified as Annex I habitat types in their own right.
- 3.20 Qualifying habitats: The site is designated under Article 4(4) of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:
- Estuaries
 - Sandbanks which are slightly covered by sea water all the time. (Subtidal sandbanks)
 - Mudflats and sandflats not covered by seawater at low tide. (Intertidal mudflats and sandflats)
 - Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)

¹² Natural England Severn Estuary Site Improvement Plan, Available online at: <http://publications.naturalengland.org.uk/publication/4590676519944192?category=5755515191689216> accessed [04/12/2020]

¹³ Natural England Severn Estuary SPA Citation, Available online at: <http://publications.naturalengland.org.uk/publication/5601088380076032> accessed [04/12/2020]

¹⁴ Natural England Severn Estuary SAC Citation, Available online at: <http://publications.naturalengland.org.uk/publication/6081105098702848> [accessed 04/12/2020]

- Reefs
- 3.21 Qualifying species: The site is designated under Article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:
- Sea Lamprey (*Petromyzon marinus*)
 - River Lamprey (*Lampetra fluviatilis*)
 - Twaite Shad (*Alosa fallax*)

Reasons for Ramsar designation¹⁵

3.22 The Severn Estuary was classified as a Ramsar Site on 13 July 1995 (subsuming a previously designated Upper Severn Estuary Ramsar Site). The qualifying interest features of the Severn Estuary Ramsar Site overlap with those of the Severn Estuary SPA and SAC.

Current Threats and Pressures¹⁶

- Public Access/Disturbance
- Physical modifications
- Impacts of development
- Coastal squeeze
- Change in land management
- Changes in species distribution
- Water pollution
- Air pollution: impact of atmospheric nitrogen deposition
- Marine consents and permits: minerals and waste
- Fisheries: recreational marine and estuarine
- Fisheries: commercial marine and estuarine
- Invasive species
- Marine litter
- Marine pollution incidents

Conservation objectives¹⁷

'Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or 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 population of each of the qualifying features, and,*
- *The distribution of the qualifying features within the site.'*

¹⁵ *Natural England Severn Estuary EMS Regulation 33 Conservation Advice Package, Available online at: <http://publications.naturalengland.org.uk/publication/3184206> [accessed 04/12/2020]*

¹⁶ *Natural England Severn Estuary Site Improvement Plan, Available online at: <http://publications.naturalengland.org.uk/publication/4590676519944192> [accessed 04/12/2020]*

¹⁷ *Natural England Severn Estuary European Site Conservation Objectives, Available online at: <http://publications.naturalengland.org.uk/publication/6081105098702848> [accessed 04/12/2020]*

4. Test of Likely Significant Effects (TOLSE)

Background to Standish Parish

- 4.1 *'The Standish settlement is a collection of small hamlets, including Stroud Green, Little Haresefield, and Standish, which are locally perceived to be one community. The hamlets within Standish Parish are spread out over 2 miles or so at the foot of the Cotswold escarpment and overlooking the River Severn. With only around 120 households, Standish is a very small community. However, it has quite a good balance of age groups amongst its inhabitants, with diverse occupations amongst the nonfarmers.'*
- 4.2 Standish Parish is located just east of the M5 heading northeast towards Gloucester and is situated within the Cotswold Area of Outstanding Natural Beauty (AONB).

Physical scope of the HRA

- 4.3 Previous HRA work for Stroud Local Plan has highlighted several impacts pathways that require analysis regarding increased development within the Standish Parish. These are as follows:
- Recreational pressure (for Cotswold Beechwoods SAC & Seven Estuary SAC, SPA & Ramsar); and
 - Air pollution: impact of atmospheric nitrogen deposition.
- 4.4 Stroud Local Plan allocates (as site PS19a) 37.5ha of land north-west of Stonehouse (referred to in the NDP as 'South Standish') for 650 residential dwellings and 5ha of employment space. This is reflected in the Standish Neighbourhood Plan where it is covered by Policy S2. This same area also includes the site allocation for Stagholt Farm (Policy S4 in the Standish NP) which allocates 24 dwellings as part of a mixed-use development. It is understood that although covered by a separate policy in the NDP Stagholt Farm forms part of the same PS19a allocation in the Local Plan.
- 4.5 The accepted recreational zones of influence for Rodborough Common SAC, Cotswold Beechwoods SAC and Severn Estuary SAC, SPA and Ramsar are 3km, 15.4km and 7.7km respectively¹⁸. These values are based on previous HRA work for Stroud District. A zone of influence is defined as the radius from a designated site from which 75% of visitors originate. Standish Parish is located within the recreational zones of influence for Cotswold Beechwoods SAC and the Severn Estuary SAC, SPA, & Ramsar. Therefore, these two designations are to be screened in for likely significant effects of recreational pressure resulting from increased development within Standish Parish.
- 4.6 Standish Parish is located 3.35km from Rodborough Common SAC at its closest point. While the development allocation in South Standish (Policy S2 in Standish NDP) and that at Stagholt Farm (Policy S4) are collectively a significant development, they are not predicted to have an adverse recreational pressure impact on the integrity of the Rodborough Common SAC since they lie well beyond the core catchment. As stated in the Interim Strategy for Avoidance of 'Likely Significant Adverse Effects' on Rodborough Common Special Area of Conservation (SAC) (Adopted by Stroud Council in May 2015), *'Applications for housing developments with a net increase of at least 1 dwelling within the 3 km Core Catchment Zone, will be required either to contribute to a mitigation measures fund set out in this Interim Strategy or provide their own bespoke impact avoidance measures that accord with the principles set out in this strategy.'*¹⁹ South Standish and Stagholt Farm are located 5.2km from Rodborough Common SAC at the nearest point. Therefore, recreational pressure due to increased development at Standish Parish is not expected to impact Rodborough Common SAC. Whilst recreational pressure is not considered further for Rodborough Common SAC, likely significant effects of air quality as a result of the development at South Standish and Stagholt Farm requires further investigation, meaning this designation will be screened in for further analysis.
- 4.7 The Screening (LSE) assessment of policies is presented in Appendix A. Two policies were screened in as a precaution (S2 and S4) even though both relate to sites already allocated via the Stroud Local Plan. Table 1 presents a summary of the screening assessment, related to the relevant European sites. In this table, green shading in the final two columns indicates that no impact pathway exists between the European site

¹⁸ Stroud District Council Local Plan Draft HRA (2019), Available online at: <https://www.stroud.gov.uk/media/1120908/stroud-local-plan-hra-for-draft-plan-consultation-291119.pdf> [accessed 04/12/2020]

¹⁹ Interim Strategy for Avoidance of Likely Significant Adverse Effects on Rodborough Common Special Area of Conservation (SAC), Available online at: <https://www.stroud.gov.uk/media/208829/agenda-document-pack-19-march-2015.pdf> [accessed 04/12/2020]

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and any likely significant adverse effects due to the absence of any mechanism for this. Orange shading indicates that a pathway of impact exists, and further discussion is therefore required.

Table 1: Scoping of Impact Pathways from development in Standish Parish to European Designated Sites (impacts highlighted in green are screened in for appropriate assessment, impacts highlighted in orange are screened out of further assessment)

International Designated Site	Location	Current and possible pressures/threats that could result from development in Standish Parish	Discussion
Severn Estuary SPA	4.7km west of the Neighbourhood Plan Area (at the closest point) (within the 7.7km core recreation zone)	Public Access/disturbance	Increased development within Standish could lead to higher numbers of visitors to the European Sites. For example, the nature, scale, timing and duration of some human activities can result in the disturbance of birds at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population. This could affect the Severn Estuary SPA which is designated for its populations of wintering birds.
		Water Quality	Increased residential development within Standish village could lead to the loss of previously undeveloped land and therefore increased surface water runoff to nearby European Sites. However, high sediment load and cold water temperatures that are present in the Severn Estuary ²⁰ don't encourage the rapid growth of smothering macroalgae, whilst higher wave action results in the winter break up of any mats that do form ²¹ . Additionally, the Neighbourhood Plan makes specific reference to mitigating surface water run-off in policy S4. The Stroud District Local Plan Draft HRA states 'The concentration of development proposed with the Sharpness new settlement may pose some risks in relation to water quality, due to the proximity of the site allocation to the Estuary.' However, Standish is located 13.8km from Sharpness, making 'in combination effects' unlikely. Therefore, water pollution caused by surface run off caused by development within Standish Parish is unlikely and will therefore be scoped out of further assessment.
		Hydrology	The Severn Trent Water Resource Management Plan HRA (2019) ²² concludes that the Final Severn Trent Water Resource Management Plan (2019) ²³ will have no likely significant effects on any European site, either alone or in combination with any other water resource management plans or projects. Severn Trent is the statutory water provider for Stroud District and their forecasting for the WRMP goes well beyond the end of the Neighbourhood Plan period and is based on robust population growth projections including an allowance for climate change. Therefore, adverse effects of development within Standish Parish on the hydrology of European Sites are unlikely and are screened out of further assessment.

²⁰ The Marine Biological Association, *Characterisation of European Marine Sites* (2003), Available at: <https://core.ac.uk/download/pdf/78755771.pdf> [accessed 04/12/2020]

²¹ Jonsson., P et al., 'Interactions between wave action and grazing control the distribution of intertidal macroalgae' Available online at: [https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/0012-9658\(2006\)87\[1169:IBWAAG\]2.0.CO;2](https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/0012-9658(2006)87[1169:IBWAAG]2.0.CO;2) [accessed 04/12/2020]

²² *Severn Trent Water Resources Management Plan HRA* (2019) Available online at: <https://www.severntrent.com/content/dam/stw-plc/water-resource-zones/2019/WRMP19-HRA-Final-Report.pdf> [accessed 04/12/2020]

²³ *Severn Trent Water Resources Management Plan (2019)*, Available online at: <https://www.stwater.co.uk/content/dam/stw-plc/our-plans/severn-trent-water-resource-management-plan.pdf> [accessed 04/12/2020]

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		Air pollution: impact of atmospheric nitrogen deposition	Increased residential development within Standish will lead to a greater number of vehicles within the parish. As such, increased air pollution is expected from vehicle exhaust emissions relative to a situation without growth, although a net reduction in NOx and nitrogen deposition is still expected compared to the current situation as a result of improved emissions technology and the government's ban on the sale of new petrol and diesel cars and vans from 2030. Pollutants released from vehicles may be carried directly by wind currents and deposited at European Sites or pollutants may become soluble and taken up during evaporation and deposited at European Sites at precipitation.
Severn Estuary SAC	4.7km west of the Neighbourhood Plan Area (at the closest point) (7.7km recreation zone)	Public Access/disturbance	As above
		Water Quality	As above
		Hydrology/ Water abstraction	As above
		Air pollution: impact of atmospheric nitrogen deposition	As above
Severn Estuary Ramsar	4.85km west of the Neighbourhood Plan Area (at the closest point) (7.7km recreation zone)	Public Access/disturbance	As above
		Water Quality	As above
		Hydrology/ Water abstraction	As above
		Air pollution: impact of atmospheric nitrogen deposition	As above
Rodborough Common SAC	3.3km southeast of the Neighbourhood Plan Area (at its closest point) (3km recreation zone)	Public Access/disturbance	Rodborough Common is located 3.3km from Standish Parish at the closest point, which is outside the 3km recreational zone of influence. Moreover, the South Standish allocation is more than 5km distant. Therefore, adverse impacts on this SAC as a result of recreational pressure caused by development within Standish Parish, is unlikely and will be scoped out of further assessment.
		Air pollution: impact of atmospheric nitrogen deposition	Increased residential development within Standish will lead to a greater number of vehicles within the parish. As such, increased air pollution is expected from vehicle exhaust emissions relative to a situation without growth, although a net reduction in NOx and nitrogen deposition is still expected compared to the current situation as a result of improved emissions technology and the government's ban on the sale of new petrol and diesel cars and vans from 2030. Pollutants released from vehicles may be carried directly by wind currents and deposited at European Sites or pollutants may become soluble and taken up during evaporation and deposited at European Sites at precipitation. Rodborough common supports a rare orchid composition which could be sensitive to nitrogen deposition.
Cotswold Beechwood SAC	4.6km northeast of the Neighbourhood Plan	Public Access/Disturbance	Increased development within Standish could lead to higher numbers of visitors to European Sites. The Stroud District Local Plan Draft HRA highlights recreational

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	<p>Area (at its closest point) (15.4km recreation zone)</p>		<p>pressure as a growing threat including the use of bicycles which can cause disturbance and damage to the land to a higher degree than footfall alone.</p>
		<p>Air pollution: impact of atmospheric nitrogen deposition</p>	<p>Significant air pollution from traffic is closely related to the mass movement of people on daily journeys to work, rather than occasional recreational visits by smaller groups. The most likely journey to work route for residents of Standish Parish and particularly the South Standish allocation is the M5 as it connects Standish to Gloucester, the nearest large employment centre. The M5 is located further than 200m from the nearest point of the Cotswolds Beechwoods SAC. This is relevant because beyond 200m from a road its contribution to elevated local air pollution is negligible. Therefore, adverse effects of air pollution as a result of development within Standish are unlikely and are screened out of further assessment.</p>

5. The 'in Combination' Scope

- 5.1 It is a requirement of the Regulations that the impacts and effects of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the internationally designated site(s) in question.
- 5.2 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e. to ensure that those projects or plans which in themselves have minor impacts are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential. The overall approach is to exclude the risk of there being unassessed likely significant effects in accordance with the precautionary principle. This was first established in the seminal Waddenzee²⁴ case.
- 5.3 For the purposes of this assessment, we have determined that, due to the nature of the identified impacts, the key other plans and projects with potential for in combination likely significant effects are those schemes that have the following impact pathways: Recreational pressure, air quality impacts, water quality impacts. The following plans have been assessed for their in-combination impact to interact with the Standish Neighbourhood Plan:
- Stroud District Council Local Plan Draft, (2019) (12,800 dwellings over the next 20 years)
 - Severn Water Resource Management Plan (2019)
 - Forest of Dean Allocations Plan (2018) (6600 dwellings over the plan period 2006 to 2026).
 - Cotswold District Council Local Plan 2011 – 2031 (2018) (8400 dwellings)
 - South Gloucester Policies, Sites and Places Plan (2017)
 - Gloucester Cheltenham and Tewkesbury Joint Core Strategy (2017) (35,175 dwellings in the period 2011-2031)
- 5.4 It should be noted that, while the broad potential impacts of these other projects and plans will be considered, we do not propose carrying out full HRA on each of these plans – we will however draw upon existing HRA that have been carried out for surrounding regions and plans.
- 5.5 The Stroud District Council Local Plan Draft HRA states that adverse effects on the Severn Estuary SAC, SPA & Ramsar as a result of development in Stroud District cannot be ruled out and that development at Sharpness should be considered in combination with other development within the district. Therefore, it is essential that Standish NDP considers the cumulative effects of development at Sharpness and elsewhere around the SAC/SPA/Ramsar as well as development within the Parish. Together, these could result in increased recreational pressure on this European Site as a result of an increase in hardstanding area.
- 5.6 Cheltenham Borough Council, in conjunction with Natural England, has released a document that addresses the in combination effects of recreational pressure on Cotswold Beechwoods SAC. In summary, due to the cross-border nature of the SAC and its core catchment zone, recreational pressure on this SAC could originate from any of the five adjoining districts, of which Stroud is one. The 'in combination' effects of recreation pressure on Cotswolds Beechwoods SAC are discussed further below.

²⁴ Waddenzee case (Case C-127/02, [2004] ECR-I 7405)

6. Appropriate Assessment

Introduction

- 6.1 The law does not prescribe how an appropriate assessment should be undertaken or presented but the appropriate assessment must consider all impact pathways that have been screened in, whether they are due to policies alone or to impact pathways that arise in combination with other projects and plans. That analysis is the purpose of this section. The law does not require the 'alone' and 'in combination' effects to be examined separately provided all effects are discussed.
- 6.2 The Stroud Local Plan allocates 650 residential dwellings and 5ha of employment space to South Standish (Policy PS19a in the Stroud District Local Plan Draft, Policy S2 in the NDP). Whilst this is a large amount of growth, it is concentrated within one area in Standish. Since this is a Local Plan allocation it has already been assessed by the Local Plan HRA. However, for completeness, potential isolated impacts of 650 net dwellings within South Standish, is assessed as well as the potential impacts of this development in combination with other allocations in the immediate vicinity within other parishes. The Standish NDP also provides a site allocation at Stagholt Farm (S4). Whilst this is a separate policy, the dwelling allocation (24 net dwellings) for Stagholt Farm is incorporated into the dwelling allocation for South Standish as stated in the Standish NDP and subject to the landowner's decision. Therefore, this site should also have been covered as part of the Stroud Local Plan HRA.
- 6.3 The HRA screening exercise undertaken in Appendix A indicates two policies that were expected to have likely significant effects on the European Sites due to air quality and recreational pressures. At the screening stage, the following policies were screened in and require further assessment:
- Policy S2: Major Development at South Standish (650 dwellings & 5ha of employment space)
 - Policy S4: Site Allocation at Stagholt Farm (24 dwellings)

Air Quality

- 6.4 Increased residential development within South Standish could decrease air quality relative to a situation without growth through increased emissions from vehicle exhausts. There are two measures of relevance regarding air quality impacts from vehicle exhausts. The first is the concentration of oxides of nitrogen (known as NO_x) in the atmosphere. In extreme cases NO_x can be directly toxic to vegetation but its main importance is as a source of nitrogen, which is then deposited on adjacent habitats. The guideline atmospheric concentration advocated by Government for the protection of vegetation is 30 micrograms per cubic metre ($\mu\text{g m}^{-3}$), known as the Critical Level, as this concentration relates to the growth effects of nitrogen derived from NO_x on vegetation.
- 6.5 The second important metric is a measure of the rate of the resulting nitrogen deposition. The addition of nitrogen is a form of fertilization, which can have a negative effect on woodlands and other habitats over time by encouraging more competitive plant species that can force out the less competitive species that are more characteristic. Unlike NO_x in atmosphere, the nitrogen deposition rate below which we are confident effects would not arise is different for each habitat. The rate (known as the Critical Load) is provided on the UK Air Pollution Information System (APIS) website (www.apis.ac.uk) and is expressed as a quantity (kilograms) of nitrogen over a given area (hectare) per year ($\text{kgNha}^{-1}\text{yr}^{-1}$).
- 6.6 Emissions of NO_x and resulting deposition can have community level impacts to habitats and European Sites. The routes that nitrogen deposition impacts habitats and vegetation described above are through toxicity and the movement of nitrogen through varying trophic levels. Another route of affect is through nitrogen acidification. A study undertaken by Maskell et al (2010)²⁵ observed that with increasing acid deposition from NO_x there was a decrease in species richness within heathland. Acid deposition can have serious impacts to the health of soil structure and the microbial communities found here. These species carryout a natural decaying process known as nitrification (converting ammonium to nitrate) that generates acidity. However, when in combination with acid deposition from NO_x pollution the soil pH may become too acidic for specialised plant communities to survive and result in a net decrease in biodiversity²⁶. Acidification

²⁵ Maskell, L.C., Smart, S.M., Bullock, J.M., Thompson, K.E.N. and Stevens, C.J., (2010). Nitrogen deposition causes widespread loss of species richness in British habitats. *Global Change Biology*, 16(2), pp.671-679.

²⁶ Defra (2007) Acid Deposition Processes. Nobel House: London.

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tends to be more of an issue for acid substrates, which have poor buffering capacity (i.e. heathland), than neutral or calcareous substrates.

- 6.7 Air quality impacts are most appropriately tackled at the Local Plan level. Impacts of air quality to European sites within the Stroud District were assessed in the Draft HRA of the Stroud Local Plan (2019). A summary of the findings is below.
- 6.8 The Design Manual for Roads and Bridges (DMRB) advises that the effect of traffic emissions is focussed on the first 200m to the side of a road. There is a declining effect out to 200m and beyond this it is currently agreed that the effects are de minimis, i.e. of no consequence against background levels.
- 6.9 Road links within 200m of the Severn Estuary SAC, SPA and Ramsar, and Rodborough Common SAC were identified for further investigation and are described in Table 2.

Table 2. Roads within 200m of each European Site, that connect to Standish Parish.

Road Link	Ecological Site	Grid Reference
M5	Severn Estuary SAC/SPA/Ramsar site is indirectly connected to Standish via Gloucester Road leading to the M5 heading southwest. The M48 and M4 both connect to the M5 and cross the European site north of Bristol but this is almost 30km and 36 minutes from Standish Parish by car and therefore beyond the typical journey to work time for this region which is 25 minutes by car according to Department for Transport data). ²⁷	SO80191107
A419	Rodborough Common SAC is indirectly connected to Standish via the B4008 leading to the A46, the only major road within 200m of the SAC.	SO80970476

- 6.10 According to the Stroud District Local Plan Draft HRA, levels of ammonia at Rodborough Common SAC were found to exceed the critical level. However, the Local Plan HRA identifies that no other gases associated with traffic pollution (i.e. NOx) are currently exceeding their critical levels at this European Site. Indeed, the UK Air Pollution Information System (APIS) suggests that background NOx levels at Rodborough Common are far below the critical level which is probably attributable to the distance from major roads or other significant sources of combustion of the grid square within which the SAC is situated. The two main sources of ammonia are catalytic converters associated with traffic, and agricultural emissions. The fact that ammonia is, in isolation, the only chemical to exceed the critical level raises the question of the primary source of nitrogen at the SAC as, if traffic was the main contributor, one would expect NOx concentrations to also be elevated. Source attribution graphs on APIS indicate that for this SAC less than 10% of nitrogen deposited on the site derives from UK road traffic (the entire UK vehicle fleet, not just local roads). In contrast, 40% of the nitrogen deposited on the SAC comes from fertiliser and livestock in the surrounding area. The key to achieving the conservation objectives regarding nitrogen deposition at this SAC therefore most likely lies with addressing agricultural emissions rather than traffic emissions.
- 6.11 The Stroud Local Plan HRA does identify the need for further investigation to determine whether traffic is the cause of the high levels of ammonia; however, the Local Plan HRA considers this to be unlikely. This investigation is being tackled at the Local Plan level. In any event, the only potential journey to work route for residents of Standish parish is the A46 which passes within 200m of the SAC for a short 160m stretch. Even at its closest, however, the road is 168m from the SAC by which time any pollution due to the road will be almost at background levels. Therefore, there is no basis to conclude adverse effects on integrity from growth in Standish, alone or in combination with growth elsewhere in Stroud.
- 6.12 Standish itself is located along the M5 corridor towards Bristol. The M5 connects to the M48 and M4, which both cross the Seven Estuary SAC, SPA & Ramsar. However, this is almost 30km from Standish Parish and well beyond the typical journey to work travel distance in England (which is closer to 10km according to Department for Transport data). Gloucester is a much more significant journey to work destination for residents of the parish than settlements in Wales. The air quality impact pathway between Standish Parish and the European Site is therefore tenuous and the much larger settlements closer to the European site

²⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/787488/tsqb-2018-report-summaries.pdf

such as Bristol are most likely to contribute to the majority of emissions. The Local Plan Draft HRA only highlights the need for further assessment of air quality on the Seven Estuary SAC SPA & Ramsar due to the development allocation proposed at Sharpness. There will therefore be no adverse effect of development within Standish Parish on the integrity of Severn Estuary SAC/SPA/Ramsar site through air quality.

Recreational Pressure

- 6.13 There is growing concern over the cumulative impacts of recreation on key nature conservation sites in the UK, as most sites must fulfill conservation objectives while also providing recreational opportunity. Various research reports have provided compelling links between changes in housing and access levels and impacts on European protected sites^{28 29}. This applies to any habitat, but the additional recreational pressure from housing growth on destinations with water features is likely to be especially strong and some of the qualifying waterfowl are known to be susceptible to disturbance. Different European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex. HRAs of Plans tend to focus on recreational sources of disturbance as a result of new residents³⁰.
- 6.14 Human activity can affect organisms directly (e.g. loss of habitat or by causing species to flee) and indirectly (e.g. by damaging their habitat or reducing their fitness in less obvious ways e.g. stress). The most obvious direct effect is the loss of habitat as a result of increased visitors to a site (i.e. trampling). But human activity can also lead to much subtler behavioural (e.g. alterations in feeding behaviour, avoidance of certain areas and use of sub optimal areas etc.) and physiological changes to species (e.g. an increase in heart rate). While these are less noticeable, they might result in major population-level changes by altering the balance between immigration/birth and emigration/death³¹.
- 6.15 Impacts of bird disturbance is particularly well studied. Much research concern stems from the fact that birds expend energy unnecessarily when disturbed and the time they spend responding to humans is time that is not spent feeding³². Disturbance therefore risks increasing energetic expenditure of birds while reducing their energetic intake, which can adversely affect the 'condition' and ultimately survival of the birds. Additionally, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they then must sustain a greater number of birds³³. Moreover, the more time a breeding bird spends disturbed from its nest, the more its eggs are likely to cool and the more vulnerable they, or any nestlings, are to predators.
- 6.16 Evidence in the literature suggests that the magnitude of disturbance clearly differs between different types of recreational activities. For example, dog walking leads to a significantly higher reduction in bird diversity and abundance than hiking³⁴. Scientific evidence also suggests that key disturbance parameters, such as areas of influence and flush distance, are significantly greater for dog walkers than hikers³⁵. A UK meta-analysis suggests that important spatial (e.g. the area of a site potentially influenced) and temporal (e.g. how often or long an activity is carried out) parameters differ between recreational activities, suggesting that activity type is a factor that should be taken into account in HRAs³⁶.
- 6.17 Newly undertaken visitor surveys at Cotswold Beechwoods SAC indicate that the recreation zone of influence for the site is 15.4km. Another key finding was the impact of mountain biking at the site compared with other designations in the area due to the extensive trails. The visitor survey document states "*Mountain*

²⁸ Liley D, Clarke R.T., Mallord J.W., Bullock J.M. 2006a. The effect of urban development and human disturbance on the distribution and abundance of nightjars on the Thames Basin and Dorset Heaths. Natural England / Footprint Ecology.

²⁹ Liley D., Clarke R.T., Underhill-Day J., Tyldesley D.T. 2006b. Evidence to support the appropriate Assessment of development plans and projects in south-east Dorset. Footprint Ecology / Dorset County Council.

³⁰ The RTPi report 'Planning for an Ageing Population' (2004) which states that 'From being a marginalised group in society, the elderly are now a force to be reckoned with and increasingly seen as a market to be wooed by the leisure and tourist industries. There are more of them and generally they have more time and more money.' It also states that 'Participation in most physical activities shows a significant decline after the age of 50. The exceptions to this are walking, golf, bowls and sailing, where participation rates hold up well into the 70s'.

³¹ Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.

³² Riddington, R. et al. 1996. The impact of disturbance on the behaviour and energy budgets of Brent geese. *Bird Study* 43:269-279

³³ Gill, J.A., Sutherland, W.J. & Norris, K. 1998. The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72

³⁴ Banks P.B., Bryant J.Y. 2007. Four-legged friend or foe? Dog walking displaces native birds from natural areas. *Biology Letters* 3: 14pp.

³⁵ Miller S.G., Knight R.L., Miller C.K. 2001. Wildlife responses to pedestrians and dogs. 29: 124-132.

³⁶ Weitowitz D., Panter C., Hoskin R., Liley D. The spatio-temporal footprint of key recreation activities in European protected sites. Manuscript in preparation.

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*biking is a particular cause for concern to erosion. A survey this summer on a subset of the SSSI units has shown some serious localised impacts from mountain bike use (Natural England pers. comm.). These were particularly noted in the steep locations and where earthworks had been created (e.g. ramps and berms). It would suggest for this site that while numbers of cyclists are lower than walkers and dog walkers, the activity may be having a greater impact particularly in focused areas. Quantifying the levels of use by mountain bikers is important and recommendations for the future could include monitoring numbers using counters/cameras.*³⁷

- 6.18 Table 12 in the visitor survey document indicates that of the interviewees, the highest proportion had visited the SAC from Stroud District. Additionally, the data indicates that a higher proportion of those coming from further than 12km away had come to the site as walkers as opposed to dog walkers, looking to travel longer distances.
- 6.19 Whilst footfall at the Cotswolds Beechwoods SAC is cause for concern, Map 9 of the visitor survey document shows a distribution of 85% of the interviewees for the survey which clearly shows the majority of visitors who are regular visitors of the site come from Gloucester and Cheltenham as this would be the closest form of extensive green space from those districts. Those who did visit from Stroud who were interviewed were mostly attending the site for the very first time indicating that they are not contributing to the consistently high visitor numbers seen at Cotswold Beechwoods SAC in recent years.
- 6.20 Cheltenham Borough Council, in conjunction with Natural England, have released a document that addresses the in combination effects of recreational pressure on Cotswold Beechwoods SAC “*Natural England (NE) agrees that in order to mitigate the effects of recreation pressure arising from new housing development on the Cotswold Beechwoods SAC a joint approach will be needed by the relevant Local Planning Authorities (LPAs). This is due to the cross-border nature of recreation pressure (roughly two thirds of visitors travelling from an average of up to 10-15km from the SAC) and the in combination or cumulative nature of effects. Evidence available so far regarding the distance visitors travel to reach the SAC indicates that all three Joint Core Strategy (JCS) LPAs need to co-operate along with Stroud DC and Cotswold DC.*”³⁸
- 6.21 Addressing recreational pressure on European sites clearly requires a strategic approach rather than being something addressable entirely at the parish level. The Stroud District Council Local Plan Draft identifies the need to develop a specific mitigation strategy to aid in mitigating the impacts of recreational pressure on the Cotswold Beechwoods SAC. This would therefore provide the appropriate overall strategy to address growth in Standish parish and elsewhere within the recreational catchment of the SAC/SPA in Stroud.
- 6.22 In addition to any overall strategy being developed by the District Council, the main development at South Standish, given its size, should be designed to be recreationally self-sufficient with large areas of semi-natural publicly accessible greenspace as part of the design. Policy S2 in the Standish NP already makes reference to a Countryside and Wildlife Plan to be produced for the development. **It is recommended that this design requirement is added to Policy S2 for inclusion in the Countryside and Wildlife Plan.**
- 6.23 Also, the NDP has a sustainable transport policy relating to South Standish (Policy S3) which states “The Stonehouse NDP seeks to introduce a multi-user network of accessible routes in a series of policies that seek to retain and strengthen the PROW network there. These policies also seek to achieve wildlife corridors alongside the routes. The policies in the Standish NDP should therefore extend these policies from the Stonehouse NDP to create a seamless network where residents of either parish enjoy the same standards as they move between parishes.”
- 6.24 This will encourage residents occupying this new development to utilise walking areas closer to home rather than travelling further afield.
- 6.25 Coupled with any strategic recreational pressure mitigation strategy developed by Stroud District Council in line with the Local Plan, this will minimise the recreational pressure from Standish Neighbourhood Plan on the Cotswolds Beechwoods SAC, resulting in no adverse effect on integrity via recreational pressure at the Cotswold Beechwoods SAC.
- 6.26 Stroud District Council, in partnership with Natural England, Wildfowl and Wetlands Trust Severn Estuary Partnership, ASERA and Severn Estuary Stakeholders developed a mitigation strategy for the impact of development in Stroud district on the Severn Estuary SAC, SPA and Ramsar. The Mitigation Strategy details

³⁷ Cotswold Beechwoods Visitor Survey 2019, available at https://www.stroud.gov.uk/media/1120947/beechnwoods-visitor-survey-final_redacted.pdf [accessed 07/12/2020]

³⁸ ED010b_Appendix_B___SoCG_between_NE_and_CBC.pdf [accessed 07/12/2020]

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the joint strategic approach between the local authorities as to how to avoid and mitigate any adverse effects from increased recreational pressure in combination with other plans and projects, thus ensuring no adverse effects on the integrity of the international sites result.

- 6.27 Additionally, the Forest of Dean Allocations Plan HRA states *“It is therefore recommended that the Allocations Plan should include a commitment to working with neighbouring Severn authorities. Of particular relevance would be Stroud District Council due to the proposed development (in the Stroud Local Plan) essentially opposite Lydney docks at Sharpness. This should include a commitment to assist in monitoring visitor activities and disturbance in the Severn Estuary site in order to inform visitor management decisions. The Association of Severn Estuary Relevant Authorities (ASERA) and the Severn Estuary Partnership already exists and the District Council is a member of the group.”*
- 6.28 Although the reference is specifically to the development proposed at Sharpness, the recreational pressure from South Standish could act in combination with both development at Sharpness and development within the Forest of Dean District. It is recommended text within the Standish NDP is amended to include specific reference to monitoring of the impacts of increased residency in the Parish on the Severn Estuary.
- 6.29 The Severn Estuary Mitigation Strategy currently covers in detail a range of proposed allocations which are located directly adjacent to the Seven Estuary. When referencing allocations further afield, of which Standish Parish is one, the Mitigation Strategy states the following financial mitigation to be implemented by local authorities when considered localised planning projects:
- 6.30 *‘Competent authorities are responsible for securing any mitigation necessary to prevent adverse effects on European site interest features, but the mechanisms by which such measures are funded is a decision for the competent authorities, and there may be a range of options for funding some of the initiatives. Primarily however, developer contributions form the main source of funding when avoiding and mitigating for the effects of new development, and follow a principle of each development proportionately mitigating for its own potential impact. 5.2.2 There are two main mechanisms for delivery of impact mitigation:*
- *on-site provision or*
 - *off-site provision via a financial contribution.*
- 6.31 *Off-site provision is delivered through a S106 agreement. This Strategy is directed specifically towards residential proposals and the measures, which can be taken to enable them to proceed without harm to the integrity of the protected Severn Estuary SPA/SAC/Ramsar. Whilst it may be possible for larger developments to demonstrate that they can mitigate the impacts of the development by providing on-site mitigation measures (for example, alternative recreation areas), most development within the catchment area will be of a small scale.*
- 6.32 *To enable these proposals to demonstrate that they will not harm the designated area of the Severn Estuary, it is proposed that they will be able to contribute financially to the implementation of the specific projects set out in the Strategy agreed to mitigate impacts identified as arising from particularly residential growth in the remaining Local Plan period 2018-2031. The cost per net dwelling will be £385 based upon the cost of the projects shared amongst the total amount of development within the catchment zone. It reflects the precautionary principle and the need to consider the “in combination” effects of development. Payment if chosen would be through a unilateral undertaking (as per Rodborough Common SAC). The Strategy applies to all proposals for new net residential development in the following classes of development whether full or outline planning permission:*
- *Proposals for 1 or more net new dwelling units (including studios or individual bedsits within Houses in Multiple Occupation) falling within Use Class C3: residential development*
 - *Proposals for 1 or more net new units of staff residential accommodation associated with Use Classes C1 and C2.*
- 6.33 *The implementation of the Strategy will be delivered by the Council in consultation with key stakeholders. This model exists for Rodborough Common where a Conservation Panel meets quarterly to discuss the phasing and spending aspects of that mitigation fund for the identified projects within that Strategy. On Rodborough SAC there are individual planning obligations, commonly referred to as a Section 106, or ‘S106’ as they are planning obligations as set out in Section 106 of the Town and Country Planning Act 1990. The alternative option, applies only to large developments, which may be able to provide mitigation measures as part of the development or implement identified projects within this Strategy themselves. This approach using stakeholders which includes the landowner, Natural England, local Wildlife and Conservation Groups*

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and the Graziers has proved successful in securing agreed implementation of those identified projects in that Strategy. The project costs and the calculation of necessary financial contributions should also be reviewed on a regular or an annual basis.

- 6.34 *The level of the contribution proposed here is provided by the total cost of projects / number of dwellings expected in the 7.7km Catchment Zone in the remaining current Local Plan period 2018-2031.*
- 6.35 *Therefore, those applications that are currently waiting to be determined will be offered the opportunity to make off site S106 contributions (.....)*
- 6.36 *The level of the contribution proposed here is provided by the total cost of projects / number of dwellings expected in the 7.7km Catchment Zone in the remaining current Local Plan period 2018-2031. This calculation is therefore £690,854 divided by 1795. The financial contribution per new net dwelling will therefore be £385. Those applications that are currently waiting to be determined will be offered the opportunity to make off site S106 contributions. Planning applicants for new houses within the catchment area can choose either to pay this financial contribution towards off-site delivery of projects identified within this strategy (recommended for small sites), or can carry out their own HRA to assess what projects can be delivered by the development on-site (recommended for appropriate larger sites).'*
- 6.37 The mitigation strategy was published in December 2017 and therefore includes an underestimation of the proposed dwellings for Standish Parish. Standish accounts for 151 of the 1795 dwellings proposed in this current mitigation strategy, equating to a contribution of £58,135 for Standish without off-site contributions. However, considering the proposed allocation in the Stroud District Local Plan Draft, this value (based on the proposed 650 net dwellings for South Standish) would yield a much higher total. It is assumed that the current mitigation strategy for the Severn Estuary will be updated to reflect the new allocations provided in the Stroud District Local Plan and which has been reiterated in the Standish NP. **It is also recommended that Standish NP makes reference to contributions to the Severn Estuary Mitigation Strategy in Policy S2 and S3 as a potential requirement for development at South Standish and Stagholt Farm.**
- 6.38 This is considered sufficient to conclude that there will be no likely significant adverse effects of the Standish Neighbourhood Plan on European Designated Sites.

7. Conclusions

- 7.1 This assessment undertook both Screening and Appropriate Assessment of the policies and any allocations within the Standish Neighbourhood Plan.
- 7.2 The international designated sites considered within the Appropriate Assessment for impact pathways that could not be screened out at the screening stage were:
- Rodborough Common SAC
 - Severn Estuary SAC, SPA & Ramsar
 - Cotswold Beechwoods SAC
- 7.3 Impact pathways considered during the screening were: recreational pressure, water quality, water quantity, level and flow and air pollution. Water quality and water quantity, level and flow were screened out at the Screening stage due to a lack of linking impact pathways. Recreational pressure and air quality could not be screened out at the Screening stage and were therefore further discussed within the Appropriate Assessment.
- 7.4 Two Site Allocations to provide net new residential development were subject to Appropriate Assessment as they were located within the accepted zones of influence of the aforementioned international sites and could result in adverse effects on the integrity of an international site in combination with other projects and plans. These were:
- Policy S2: Major development at South Standish
 - Policy S4: Site allocation at Stagholt Farm
- 7.5 Following Appropriate Assessment, a number of recommendations were made to improve the policy framework provided in the Standish Neighbourhood plan. These are as follows:
- **Adding reference in Policy S2 to the need for South Standish to be recreationally self-sufficient and incorporate significant large areas of publicly accessible semi-natural greenspace, to reduce the need for recreation further afield; and**
 - **Adding a reference in both S2 and S3 to the need to make a financial contribution as per the Severn Estuary Mitigation Strategy.**
- 7.6 It is concluded that subject to recommendations made in this assessment, combined with the overarching Stroud District Local Plan Draft, the Standish Neighbourhood Plan will contain sufficient policy framework to ensure no adverse effects on the integrity of international designated site will occur in isolation or in combination with other projects and plans.

Appendix A Policy Specific impacts for European Sites

Policy	Policy Detail	HRA Implication
S1: Standish Development Framework³⁹	<p>“1. Development in the AONB (Area A) and within the AONB’s setting (Area B) will normally be inappropriate, except as allowed under Local Plan policy ES7.</p> <p>2. Development in Area C would generally be inappropriate in this countryside location however, should development be proposed, a Landscape Assessment will be required that demonstrates that harm has been avoided to the setting of the AONB and the setting of the Standish Church, Village Hall and Court and other historic assets (Area F). Planning permission will not be granted unless potential harm can be mitigated to an acceptable level. In addition, development should not significantly increase traffic on local lanes or the B4008.</p> <p>3. Development in Areas D and F will only be allowed where it preserves, protects and enhances the listed buildings and their landscape setting.</p> <p>4. Areas E are not sustainable locations for development except under limited circumstances since they fail to fall within the Stroud District Settlement Hierarchy.</p> <p>5. Area G will be subject to NDP policy S2/Great Oldbury and will be referred to as South Standish.</p> <p>6. Development will respect the character identified in the Standish Landscape Assessment and will seek to avoid harm to the tranquillity of the countryside, generate a biodiversity net gain, and avoid flooding by use of effective water management regimes such as SuDS and the retention of natural areas adjacent to water courses.</p> <p>7. Proposals on land subject to flooding, particularly residential development in Flood Zone 3, will not be supported.”</p>	<p>No HRA implications – screened out</p> <p>This policy refers to instances in which development would not be appropriate across the Parish.</p> <p>There are no realistic linking impact pathways present.</p>
S2: Major Development in South Standish	<p>Allocates major development (10 or more dwellings) to South Standish (650 dwellings, 5ha employment space, primary school, strategic landscaping and green infrastructure and open space uses)</p>	<p>HRA Implications – Screened in</p> <p>The provision of 650 residential dwellings and 5ha of employment space with associated infrastructure has the potential to result in the following impacts pathways:</p> <ul style="list-style-type: none"> - Recreational pressure - Air quality impacts - Water quality impacts - Hydrology impacts
S3: Sustainable Transport⁴⁰	<p>“Sustainable transport will be achieved by enhancing PROWs, and the strategic cycle network. Enhancements should provide an attractive and safe replacement for the private car, commuter routes and improve local leisure activities. Provision will maintain the standards of improved routes that connect to those listed below, will conform to the standards in the Gloucestershire Rights of Way and Countryside Access Improvement Plan, and will provide effective wildlife corridors which link to the adjacent countryside (.....)</p> <p>(....)Multi-user path from Horsemarling roundabout to Black Bridge, strategic cycleway from here towards Gloucester is required.</p> <p>Any development of land which would result in a material increase or significant change in the character of traffic using a railway crossing should be refused unless, in consultation with Network Rail, it can be demonstrated either that safety will not be compromised or, where safety is compromised, that serious mitigation measures would be incorporated to prevent any increased safety risk as a result of any permission.”</p>	<p>No HRA implications – Screened out</p> <p>This is a development management policy designed to improve and manage the cycle and walking routes available within the Parish.</p> <p>There are no realistic linking impact pathways present.</p>

³⁹ Standish Development Framework Evidence Paper (2020), Available at: <https://standishvillage.co.uk/wp-content/uploads/2020/05/STANDISH-DEVELOPMENT-FRAMEWORK-Reg.-14-April-2020.pdf> [accessed 07/12/2020]

⁴⁰ Standish Sustainable Transport Evidence paper (2020) Available at: <https://standishvillage.co.uk/wp-content/uploads/2020/05/SUSTAINABLE-TRANSPORT-Reg-14-April-2020.pdf> [accessed 07/12/2020]

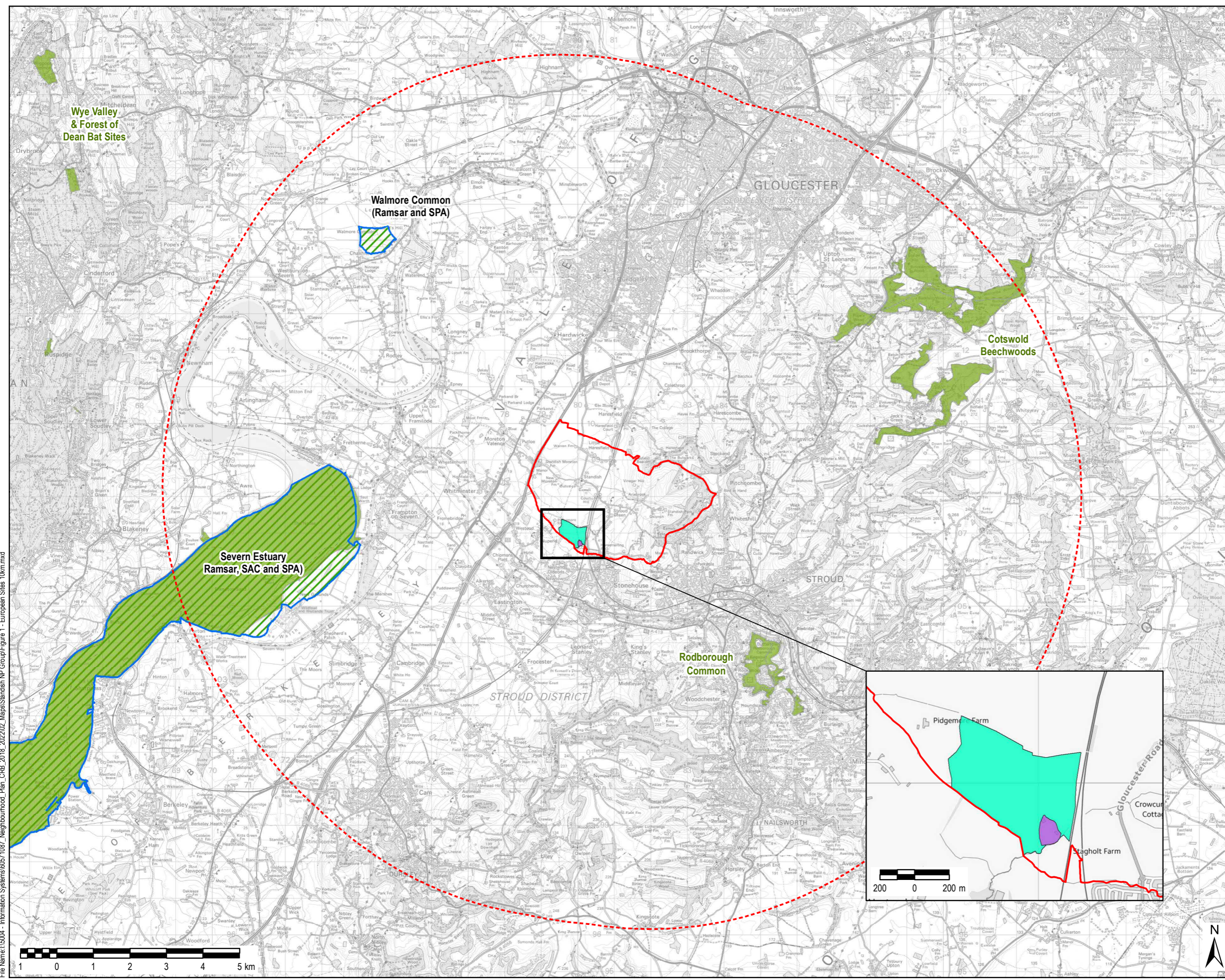
Policy	Policy Detail	HRA Implication
S4: Site allocation at Stagholt Farm⁴¹	<p>“Stagholt Farm is allocated as a mixed use site for the following:</p> <ul style="list-style-type: none">• Redevelopment of existing farm buildings as small B-class uses, self-build residential accommodation, small-scale tourism and lodging, in the area marked A.• Provision of 24 new dwellings (including at least 6 affordable) in the area marked B.• Retention and improvement of existing trees and hedgerows on the site.• Creation of a new wildlife and water management area in the area marked C. An appropriate easement of at least 8 metres between the development and watercourse should be provided for riparian maintenance.• Appropriate SuDS features will be used including, but not limited to, porous paving, water butts and swales to allow surface water management through the entirety of the development.• All properties should use rainwater harvesting to allow for a more sustainable use of rainwater. <p>The development of this land is also subject to requirements put forward by Network Rail”</p>	HRA Implications – Screened in <p>This policy provides for new mixed-use development including 24 residential dwellings which has the potential to result in the following impacts pathways:</p> <ul style="list-style-type: none">- Recreational pressure- Air quality impacts- Water quality impacts- Hydrology impacts

⁴¹ Stagholt Farm Site Evidence paper (2020) Available at: <https://standishvillage.co.uk/wp-content/uploads/2020/05/STAGHOLT-FARM-SITE-ALLOCATION-Reg-14-April-2020.pdf> [accessed 07/12/2020]

Appendix B Map of European sites

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

- LEGEND**
- Standish Neighbourhood Plan Area
 - Neighbourhood Plan Area 10km Buffer
 - Ramsar
 - Special Area of Conservation (SAC)
 - Special Protection Area (SPA)
 - Site Option**
 - Stagholt Farm
 - South Standish (PS19a)



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Purpose of Issue **DRAFT**

Client **STANDISH PARISH COUNCIL**

Project Title **STANDISH PARISH COUNCIL NEIGHBOURHOOD PLAN HRA**

Drawing Title **STANDISH NEIGHBOURHOOD PLAN IN RELATION TO EUROPEAN SITES WITHIN 10KM**

Drawn CN	Checked TD	Approved GS	Date 10/02/2021
AECOM Internal Project No. 60571087		Scale @ A3 1:95,000	

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