



**West Oxfordshire District Council**

**Oxfordshire's Cotswold  
Garden Village Area Action  
Plan – Preferred Options  
HRA Screening Report**

**Final report**

Prepared by LUC

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**West Oxfordshire District Council**

**Oxfordshire’s Cotswold Garden Village Area  
Action Plan – Preferred Options  
HRA Screening Report**

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# Chapter 1

## Introduction

1.1 LUC has been commissioned by West Oxfordshire District Council (WODC) to carry out a Habitats Regulations Assessment (HRA) in relation to the Area Action Plan (AAP) for the Oxfordshire Cotswolds Garden Village (OCGV).

1.2 This report presents the findings of the Screening stage of the HRA, which has been undertaken in relation to the Preferred Options version of the AAP (July 2019).

### Background to the AAP

1.3 The West Oxfordshire Local Plan 2031 was adopted in September 2018 by WODC. Policy EW1 in the Local Plan allocates the OCGV Strategic Location for Growth. The site is located on land north of the A40 near Eynsham, situated between Oxford in the east and Witney in the west.

1.4 Policy EW1 requires an AAP to be prepared to lead the comprehensive development of the OCGV. Once adopted, the AAP will form part of the statutory development plan alongside the West Oxfordshire Local Plan and will be used as the basis for determining any future planning applications for the OCGV site.

1.5 The AAP must comply with the National Planning Policy Framework (NPPF). Other national and local plans and strategies of relevance to the AAP are the Government's 25 Year Environmental Plan and the Clean Growth Strategy, as well as the Oxfordshire Housing and Growth Deal, the Local Transport Plan, the Oxfordshire Local Industrial Strategy, and the Oxfordshire Energy Strategy.

1.6 The OCGV will provide about 2,200 homes, about 40 hectares of new business space and various supporting facilities and services including a park and ride system and new schools. It will also involve the creation of green spaces and ecological corridors.

### The requirement to undertake Habitat Regulations Assessment of Development Plans

1.7 The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in 2007<sup>1</sup>. The currently applicable version is the Conservation of Habitats

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<sup>1</sup> *The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007* (2007) SI No. 2007/1843. TSO (The Stationery Office), London.

and Species Regulations 2017<sup>2</sup> (as amended). When preparing the AAP for the OCGV, WODC is therefore required by law to carry out an HRA. WODC can commission consultants to undertake HRA work on its behalf and this (the work documented in this report) is then reported to and considered by WODC as the 'competent authority'. WODC will consider this work and may only progress the AAP if it considers that the Plan will not adversely affect the integrity of any European site or have a significant effect on qualifying habitats or species for which the European sites are designated for. The requirement for authorities to comply with the Habitats Regulations when preparing a Plan is also noted in the Government's online Planning Practice Guidance (PPG)<sup>3</sup>.

1.8 HRA refers to the assessment of the potential effects of a development plan on one or more European sites, including Special Protection Areas (SPA) and Special Areas of Conservation (SACs):

- SACs are designated under the European Habitats Directive and target particular habitat types (Annex 1) and species (Annex II). The listed habitat types and species (excluding birds) are those considered to be most in need of conservation at a European level.
- SPAs are classified in accordance with Article 4(1) of the European Union Birds Directive<sup>4</sup> for rare and vulnerable birds (as listed in Annex I of the Directive), and under Article 4(2) for regularly occurring migratory species not listed in Annex I.

1.9 Potential SPAs (pSPAs)<sup>5</sup>, candidate SACs (cSACs)<sup>6</sup>, Sites of Community Importance (SCIs)<sup>7</sup> and Ramsar sites should also be included in the assessment.

- Ramsar sites support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971).

1.10 For ease of reference during HRA, these designations can be collectively referred to as European sites<sup>8</sup> despite Ramsar designations being at the international level.

1.11 The overall purpose of the HRA is to conclude whether or not a proposal or policy, or the whole development plan, would adversely affect the integrity of the European site in question either alone or in combination with other plans and projects. This is judged in terms of the implications of the plan for the 'qualifying features' for which the European site was designated, i.e.:

- SACs – Annex I habitat types and Annex II species<sup>9</sup>;
- SPAs – Annex I birds and regularly occurring migratory species not listed in Annex I<sup>10</sup>;
- Ramsar sites – the reasons for listing the site under the Convention<sup>11</sup>.

1.12 Significantly, HRA is based on the precautionary principle meaning that where uncertainty or doubt remains, an adverse impact should be assumed.

## Stages of HRA

1.13 The HRA of development plans is undertaken in stages (as described below) and should conclude whether or not a proposal would adversely affect the integrity of the European site in question.

1.14 The HRA should be undertaken by the 'competent authority', in this case WODC. LUC has been commissioned by WODC to carry out HRA work on the Council's behalf, although this is to be reported to and considered by WODC as the competent authority, before adopting the AAP. The HRA also requires close working with Natural England as the statutory nature conservation body<sup>12</sup> in order to obtain the necessary information, agree the process, outcomes and mitigation proposals. The Environment Agency, while not a statutory consultee for the HRA, is also in a strong position to provide advice and information throughout the process as it is required to undertake HRA for its existing licences and future licensing of activities.

## Requirements of the Habitats Regulations

1.15 In assessing the effects of a Plan in accordance with Regulation 105 of the Conservation of Habitats and Species Regulations 2017 (as amended), there are potentially two tests to be applied by the competent authority: a 'Significance Test', followed if necessary by an Appropriate Assessment

<sup>2</sup> *The Conservation of Habitats and Species Regulations 2017* (2017) SI No. 2017/1012, TSO (The Stationery Office), London.

<sup>3</sup> <https://www.gov.uk/guidance/appropriate-assessment>

<sup>4</sup> *Council Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds* (the codified version of Council Directive 79/409/EEC, as amended).

<sup>5</sup> Potential SPAs are sites that have been approved by the Minister for formal consultation but not yet proposed to the European Commission, as listed on the [GOV.UK website](http://GOV.UK).

<sup>6</sup> Candidate SACs are sites that have been submitted to the European Commission, but not yet formally adopted, as listed on the JNCC's [SAC list](#).

<sup>7</sup> SCIs are sites that have been adopted by the European Commission but not yet formally designated as SACs by the UK Government.

<sup>8</sup> The term 'Natura 2000 sites' can also be used interchangeably with 'European sites' in the context of HRA, although the latter term is used throughout this report.

<sup>9</sup> As listed in the site's citation on the JNCC website (all features of European importance, both primary and non-primary, need to be considered).

<sup>10</sup> As identified in sections 3.1, 3.2 and 4.2 of the SPA's standard data form on the JNCC website; at sites where there remain differences between species listed in the [2001 SPA Review](#) and the extant site citation in the standard data form, the relevant country agency (Natural England or Natural Resources Wales) should be contacted for further guidance.

<sup>11</sup> As set out in section 14 of the relevant 'Information Sheet on Ramsar Wetlands' available on the JNCC website.

<sup>12</sup> Regulation 5 of the Habitats Regulations 2017.

which would inform the 'Integrity Test'. The relevant sequence of questions is as follows:

- Step 1: Under Reg. 105(1)(b), consider whether the plan is directly connected with or necessary to the management of the sites. If not, then the considerations proceed to Step 2.
- Step 2: Under Reg. 105(1)(a) consider whether the plan is likely to have a significant effect on a European site, either alone or in combination with other plans or projects (the 'Significance Test'). If yes, proceed to Step 3.

*[Steps 1 and 2 are undertaken as part of Stage 1: HRA Screening in **Error! Reference source not found.**]*

- Step 3: Under Reg. 105(1), make an Appropriate Assessment of the implications for the European site in view of its current conservation objectives (the 'Integrity Test'). In so doing, it is mandatory under Reg. 105(2) to consult Natural England, and optional under Reg. 105(3) to take the opinion of the general public.

*[This step is undertaken during Stage 2: Appropriate Assessment shown in **Error! Reference source not found.**]*

- Step 4: In accordance with Reg. 105(4), but subject to Reg. 107, give effect to the land use plan only after having ascertained that the plan would not adversely affect the integrity of a European site.
- Step 5: Under Reg. 107, if Step 4 is unable to rule out adverse effects on the integrity of a European site and no alternative solutions exist then the competent authority may nevertheless agree to the plan or project if it must be carried out for 'imperative reasons of overriding public interest' (IROPI).

### Typical stages

1.16 **Table 1.1** summarises the stages and associated tasks and outcomes typically involved in carrying out a full HRA, based on various guidance documents<sup>13 14 15</sup>.

**Table 1.1: Stages of HRA**

Stage	Task	Outcome
Stage 1:	Description of the development plan	Where effects are unlikely, prepare a

Stage	Task	Outcome
HRA Screening	and confirmation that it is not directly connected with or necessary to the management of European sites.  Identification of potentially affected European sites and their conservation objectives <sup>16</sup> .  Review of other plans and projects.  Assessment of Likely Significant Effects of the development plan alone or in combination with other plans and projects, prior to consideration of avoidance or reduction ('mitigation') measures <sup>17</sup> .	'finding of no significant effect report'.  Where effects judged likely, or lack of information to prove otherwise, proceed to Stage 2.
Stage 2:  Appropriate Assessment (where Stage 1 does not rule out likely significant effects)	Information gathering (development plan and European sites <sup>18</sup> ).  Impact prediction.  Evaluation of development plan impacts in view of conservation objectives of European sites.  Where impacts are considered to directly or indirectly affect qualifying features of European sites, identify how these effects will be avoided or reduced ('mitigation').	Appropriate Assessment report describing the plan, European site baseline conditions, the adverse effects of the plan on the European site, how these effects will be avoided or reduced, including the mechanisms and timescale for these mitigation measures.  If effects remain after all alternatives and mitigation measures have been considered proceed to Stage 3.
Stage 3:  Assessment where no alternatives exist	Identify 'imperative reasons of overriding public	This stage should be avoided if at all possible. The test of

<sup>13</sup> European Commission (2001) Assessment of plans and projects significantly affecting European Sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

<sup>14</sup> UK Government Planning Practice Guidance, available from <https://www.gov.uk/guidance/appropriate-assessment>

<sup>15</sup> The HRA Handbook. David Tyldesley & Associates, a subscription based online guidance document: <https://www.dtapublications.co.uk/handbook/European>

<sup>16</sup> Conservation objectives are published by Natural England for SACs and SPAs.

<sup>17</sup> In line with the CJEU judgment in Case C-323/17 People Over Wind v Coillte Teoranta, mitigation must only be taken into consideration at this stage and not during Stage 1: HRA Screening.

<sup>18</sup> In addition to European site citations and conservation objectives, key information sources for understanding factors contributing to the integrity of European sites include (where available) conservation objectives supplementary advice and Site Improvement Plans prepared by Natural England.

Stage	Task	Outcome
and adverse impacts remain taking into account mitigation	interest' (IROPI). Demonstrate no alternatives exist. Identify potential compensatory measures.	IROPI and the requirements for compensation are extremely onerous.

1.17 It is normally anticipated that an emphasis on Stages 1 and 2 of this process will, through a series of iterations, help ensure that potential adverse effects are identified and eliminated through the inclusion of mitigation measures designed to avoid, reduce or abate effects. The need to consider alternatives could imply more onerous changes to a plan document. It is generally understood that so called 'imperative reasons of overriding public interest' (IROPI) are likely to be justified only very occasionally and would involve engagement with both the Government and European Commission.

### Recent case law changes

1.18 This HRA will be prepared in accordance with recent case law findings, including most notably the 'People over Wind' and 'Holohan' rulings from the Court of Justice for the European Union (CJEU).

1.19 The recent *People over Wind, Peter Sweetman v Coillte Teoranta* (April 2018) judgment ruled that Article 6(3) of the Habitats Directive should be interpreted as meaning that mitigation measures should be assessed as part of an Appropriate Assessment and should not be taken into account at the screening stage. The precise wording of the ruling is as follows:

*"Article 6(3) .....must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of measures intended to avoid or reduce the harmful effects of the plan or project on that site."*

1.20 In light of the above, the HRA Screening stage will not rely upon avoidance or mitigation measures to draw conclusions as to whether the AAP could result in 'likely significant effects' on European sites, with any such measures being considered at the Appropriate Assessment stage as relevant.

1.21 The HRA will also fully consider the recent *Holohan v An Bord Pleanala* (November 2018) judgement which stated that:

*"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and*

*flora must be interpreted as meaning that an 'appropriate assessment' must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.*

*Article 6(3) of Directive 92/43 must be interpreted as meaning that the competent authority is permitted to grant to a plan or project consent which leaves the developer free to determine subsequently certain parameters relating to the construction phase, such as the location of the construction compound and haul routes, only if that authority is certain that the development consent granted establishes conditions that are strict enough to guarantee that those parameters will not adversely affect the integrity of the site.*

*Article 6(3) of Directive 92/43 must be interpreted as meaning that, where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'appropriate assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned."*

1.22 LUC will fully consider the potential for effects on species and habitats, including those not listed as qualifying features, to result in secondary effects upon the qualifying features of European sites, including the potential for complex interactions and dependencies. In addition, the potential for offsite impacts, such as through impacts to functionally linked land, and or species and habitats located beyond the boundaries of European site, but which may be important in supporting the ecological processes of the qualifying features, has also been fully considered in this HRA.

### HRA work carried out previously

1.23 The AAP is currently in development and has not yet reached the formal Regulation 19 Publication stage. As such, no HRA work has previously been undertaken. Advice has been sought by WODC from Natural England who recommended that the following required consideration:

- The AAP should be screened under Regulation 105 of the Conservation of Habitats and Species Regulations 2017.
- Air Pollution – in particular, traffic impacts on local roads within the vicinity of the garden village site. Designated sites at risk from local impacts are those within 200m of a road with increased traffic.

- Protecting and Enhancing Environment Assets – the AAP needs to make provisions for appropriate quantity and quality of greenspace to meet identified local needs as outlined in paragraph 96 of the NPPF. Guidance can be sought from Natural England's work on Accessible Natural Greenspace Standard (ANGSt) in assessing current level of accessible natural greenspace and planning improved provision.

1.24 The West Oxfordshire Local Plan was subject to HRA throughout its preparation, with the submitted HRA report (March 2015)<sup>19</sup> being updated in June 2018<sup>20</sup> to take into account the Main Modifications to the Plan. The HRA considered all Local Plan policies, including policy EW1 which allocates the OCGV. Policy EW1 was screened in as having potential for likely significant effects on Oxford Meadows SAC and Cothill Fen SAC, but following Appropriate Assessment the HRA concluded that there will be no adverse effects on the integrity of any European site from the implementation of the Local Plan as modified, either alone or in combination with other plans and projects.

1.25 LUC has carried out a Sustainability Appraisal of the AAP and LUC previously undertook the HRA of South Oxfordshire Local Plan (2014 – 2018), which is adjacent to West Oxfordshire District. The conclusions of this work will be drawn on to inform the HRA of the AAP as appropriate.

## Structure of this report

1.26 This chapter (**Chapter 1**) has described the background to the preparation of the AAP and the requirement to undertake HRA. The remainder of the report is structured into the following sections:

- **Chapter 2** describes the content of the AAP. It also describes the European sites in and around West Oxfordshire that could be affected by the AAP and summarises the key issues that will need to be considered during the HRA.
- **Chapter 3** describes the approach that is being taken to the HRA of the AAP.
- **Chapter 4** sets out the findings of the Screening stage of the HRA for the Preferred Options version of the AAP.
- **Chapter 5** describes the next steps that will be carried out in the HRA of the AAP.

1.27 The information in the main body of the report is supported by the following appendices:

- **Appendix A** presents a map showing the European sites within West Oxfordshire District (+15km).
- **Appendix B** sets out detailed information about the European sites that are the focus of the HRA.
- **Appendix C** includes the screening matrices, which assess each proposed policy approach within the AAP to determine the potential for likely significant effects on European sites.

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<sup>19</sup> URS (March 2015) West Oxfordshire Pre-Submission Local Plan: Habitats Regulations Assessment.

<sup>20</sup> Aecom (June 2018) West Oxfordshire Local Plan: Habitats Regulations Assessment Incorporating Appropriate Assessment.



## Chapter 2

# The Oxfordshire Cotswolds Garden Village AAP

2.1 The AAP sets out a draft vision and objectives as well as a series of preferred policy approaches. The draft vision for the OCGV states that:

By 2031, the Oxfordshire Cotswolds Garden Village will be established as a thriving and inclusive community, epitomising all that is good about West Oxfordshire but with its own strong and distinctive character, form and identity.

The Garden Village will be known for its emphasis on the environment, quality and innovation and will tackle the challenges presented by climate change 'head-on', providing a model example of how to plan a new community for the 21st century in a logical, organic and sustainable way. The perfect setting for wildlife and people to flourish together.

Those who live there will enjoy a healthy, high quality of life, with affordable, attractive and energy efficient homes set within leafy, walkable village neighbourhoods closely integrated with extensive green space including a new countryside park and supported by a range of facilities including schools, community space, leisure and recreation and local shopping opportunities.

Those who work there will be drawn by a broad range of exciting employment and training opportunities with high quality business space in an attractive rural setting, reliable and integrated public transport choices and 'future proofed' infrastructure including digital connectivity to enable and encourage high rates of home and remote working.

Those who visit will experience a strong sense of place, will be able to easily and safely find their way around, enjoy a broad range of different activities and opportunities and leave wanting to return time and time again.

2.2 The draft vision is supported by 38 core objectives which are grouped into the following seven themes:

- Building a strong, vibrant and sustainable community
- Healthy place shaping
- Protecting and enhancing environmental assets
- Meeting current and future housing needs
- Enterprise, innovation and productivity

- Transport movement and connectivity
- Climate change and resilience

2.3 The AAP includes 34 Preferred Policy Approaches, which are presented in groups relating to the above themes.

2.4 Section 5 of the AAP explains the background to the development of three main options for the spatial framework for the garden village. These are summarised below:

- **Option 1:** This option is based on a single neighbourhood epicentre with extensive greenspace with wetland habitat in the north, the "millennium wood" in the south, and green corridors extending throughout the neighbourhood. It also comprises the potential for a community farm/orchard in the eastern part of the site.
- **Option 2:** This option is based on three distinct walkable neighbourhoods with centres in the western, eastern and northern regions of the site. The northern part of the site would again include an expansive green space which extends along the western boundary of the site. The northern region will be of a lower density character to the other two regions to respond to the countryside setting to the north. A network of green corridors will be created throughout the three centres.
- **Option 3:** The final option is of a similar design to Option 2 with three distinct neighbourhoods all within walking distance. The eastern and western neighbourhoods are further south to ensure more closer links with Eynsham. As seen previously, extensive green space will be provided along the northern and western edges, but also along the eastern edge which may incorporate a community farm/orchard.

2.5 The AAP does not yet take forward any one of these three options as a preferred policy approach. This will be addressed in the final Pre-Submission draft version of the AAP.

## Potential impacts of the Local Plan on European sites

2.6 **Table 2.1** below sets out the range of potential impacts that development in general and related activities may have on European sites. This has been used as a starting point to help identify the types of effects that the AAP could have on European sites. The AAP will not result in all of the different types of impacts and activities. More information about the types of impacts that the AAP could have, and which therefore need to be considered in this HRA, is provided in **Chapter 3**.

Table 2.1: Potential impacts and activities adversely affecting European sites

Broad categories and examples of potential impacts on European sites	Examples of activities responsible for impacts
<p><b>Physical loss</b></p> <p>Removal (including offsite effects, e.g. foraging habitat)</p> <p>Mine collapse</p> <p>Smothering</p> <p>Habitat degradation</p>	<p>Development (e.g. housing, employment, infrastructure, tourism)</p> <p>Infilling (e.g. of mines, water bodies)</p> <p>Alterations or works to disused quarries</p> <p>Structural alterations to buildings (bat roosts)</p> <p>Afforestation</p> <p>Tipping</p> <p>Cessation of or inappropriate management for nature conservation</p>
<p><b>Physical damage</b></p> <p>Sedimentation / silting</p> <p>Prevention of natural processes</p> <p>Habitat degradation</p> <p>Erosion</p> <p>Trampling</p> <p>Fragmentation</p> <p>Severance / barrier effect</p> <p>Edge effects</p> <p>Fire</p>	<p>Flood defences</p> <p>Dredging</p> <p>Mineral extraction</p> <p>Recreation (e.g. motor cycling, cycling, walking, horse riding, water sports, caving)</p> <p>Development (e.g. infrastructure, tourism, adjacent housing etc.)</p> <p>Vandalism</p> <p>Arson</p> <p>Cessation of or inappropriate management for nature conservation</p>
<p><b>Non-physical disturbance</b></p> <p>Noise</p> <p>Vibration</p> <p>Visual presence</p> <p>Human presence</p> <p>Light pollution</p>	<p>Development (e.g. housing, industrial)</p> <p>Recreation (e.g. dog walking, water sports)</p> <p>Industrial activity</p> <p>Mineral extraction</p> <p>Navigation</p> <p>Vehicular traffic</p> <p>Artificial lighting (e.g. street lighting)</p>
<p><b>Water table/availability</b></p> <p>Drying</p> <p>Flooding / stormwater</p> <p>Water level and stability</p> <p>Water flow (e.g. reduction in velocity of surface water)</p> <p>Barrier effect (on migratory species)</p>	<p>Water abstraction</p> <p>Drainage interception (e.g. reservoir, dam, infrastructure and other development)</p> <p>Increased discharge (e.g. drainage, runoff)</p>
<p><b>Toxic contamination</b></p> <p>Water pollution</p> <p>Soil contamination</p> <p>Air pollution</p>	<p>Agrochemical application and runoff</p> <p>Navigation</p> <p>Oil / chemical spills</p> <p>Tipping</p> <p>Landfill</p> <p>Vehicular traffic</p> <p>Industrial waste / emissions</p>

Broad categories and examples of potential impacts on European sites	Examples of activities responsible for impacts
<p><b>Non-toxic contamination</b></p> <p>Nutrient enrichment (e.g. of soils and water)</p> <p>Algal blooms</p> <p>Changes in salinity</p> <p>Changes in thermal regime</p> <p>Changes in turbidity</p> <p>Air pollution (dust)</p>	<p>Agricultural runoff</p> <p>Sewage discharge</p> <p>Water abstraction</p> <p>Industrial activity</p> <p>Flood defences</p> <p>Navigation</p> <p>Construction</p>
<p><b>Biological disturbance</b></p> <p>Direct mortality</p> <p>Out-competition by non-native species</p> <p>Selective extraction of species</p> <p>Introduction of disease</p> <p>Rapid population fluctuations</p> <p>Natural succession</p>	<p>Development (e.g. housing areas with domestic and public gardens)</p> <p>Predation by domestic pets</p> <p>Introduction of non-native species (e.g. from gardens)</p> <p>Fishing</p> <p>Hunting</p> <p>Agriculture</p> <p>Changes in management practices (e.g. grazing regimes, access controls, cutting/clearing)</p>

## Chapter 3

### Approach to HRA

3.1 This chapter describes the approach that is being taken to the HRA of the AAP throughout its development.

#### Identification of European sites which may be affected by the AAP

3.2 In order to initiate the search of European sites that could potentially be affected by the AAP, it is established practice in HRAs to consider European sites within the local planning authority area covered by a Plan, and also within a buffer distance from the boundary of the Plan area.

3.3 A distance of 15km from the West Oxfordshire District boundary was used as a starting point to identify European sites that could be affected by impacts relating to new development at the Oxfordshire Cotswolds Garden Village north of Eynsham in West Oxfordshire. In addition to this, consideration was also given to European sites potentially connected to the plan area beyond this distance, for example through hydrological pathways or recreational visits by residents of West Oxfordshire.

3.4 The European sites identified for inclusion in the HRA are listed below and are mapped in **Figure 1** in **Appendix A**. Detailed information about each site is provided in **Appendix B**.

3.5 European sites within West Oxfordshire District:

- Oxford Meadows SAC

3.6 European sites outside of West Oxfordshire District:

- Cothill Fen SAC
- North Meadow and Clattinger Farm SAC
- Hackpen Hill SAC
- Little Wittenham SAC
- River Lambourn SAC

3.7 There are no SPAs or Ramsar sites within 15km of West Oxfordshire District.

3.8 The Little Wittenham, Hackpen Hill, North Meadow & Clattinger Farm and River Lambourn SACs are all situated outside the District boundary but were initially considered within this HRA Screening report as they were included within the HRA for the West Oxfordshire Local Plan. Additionally, these European sites are all within, or within close proximity

to, the 15km buffer around the West Oxfordshire District boundary, and were included to determine if there were any pathways between the OCGV and these European sites which may affect their integrity, or the qualifying species/habitats for which they are designated for.

3.9 However, these four SACs are even further than 15km from the OCGV boundary, and the HRA for the West Oxfordshire Local Plan screened out these sites, concluding that the Local Plan (including the OCGV allocation) would not have likely significant effects on them as there are no impact pathways between the sites and the OCGV. Therefore, these SACs are screened out of this HRA and the only sites that needed to be considered further were Oxford Meadows SAC and Cothill Fen SAC.

## Ecological attributes of the European sites

3.10 The designated features and conservation objectives of the European sites, together with current pressures on and potential threats, have been presented in **Appendix B** using the Standard Data Forms for SACs published on the JNCC website<sup>21</sup> as well as Natural England's Site Improvement Plans<sup>22</sup> and the most recent conservation objectives published on the Natural England website (most were published in 2014)<sup>23</sup>. Despite being screened out of this HRA (as explained above), information about the Little Wittenham, Hackpen Hill, North Meadow & Clattinger Farm and River Lambourn SACs is included in Appendix B for reference.

3.11 An understanding of the designated features of each European site and the factors contributing to its integrity will inform the assessment of the potential likely significant effects of the AAP. This approach will be useful for informing the inter-dependencies of non-qualifying species and habitats which the qualifying species depend, as recently highlighted as a requirement by the 'Holohan' ruling.

3.12 In general, the six SACs initially included in this Screening exercise are designated for their hayland meadows, grassland, fen and riverine habitats with no mobile species, except for Little Wittenham SAC which is designated for great crested newts.

## Screening Methodology

### Assessment of 'Likely Significant Effect'

3.13 As required under Regulation 105 of The Conservation of Habitats and Species Regulations 2017 (the 'Habitats Regulations'), an assessment has been undertaken of the 'likely significant effects' of the policy approaches set out

within the Preferred Options version of the AAP. The assessment has been undertaken in order to identify which policies would be likely to have a significant effect on European sites in West Oxfordshire (+15km). **Appendix C** presents the screening matrices for the AAP policies, and **Chapter 4** summarises the Screening findings and conclusions. The screening assessment has been conducted without taking pre-embedded mitigation into account, in accordance with the 'People over Wind' judgment. Where a proposed policy approach could potentially provide some mitigation for the effects of other proposals within the AAP, this is noted in Appendix C but such mitigation has not influenced the screening conclusions. It will be considered further during the Appropriate Assessment stage of the HRA as relevant.

3.14 With reference to the broad impact types shown in **Table 2.1**, consideration has been given to the potential for the development proposed in the AAP to result in significant effects associated with:

- physical loss of/damage to habitat;
- non-physical disturbance (noise, vibration and light);
- non-toxic contamination;
- air pollution;
- recreation pressure; and,
- changes to hydrological regimes.

3.15 Toxic contamination of air and water is addressed within air pollution and changes to hydrological regimes. For the SACs considered within this HRA, biological disturbance is only likely to occur as a result of recreation-related activities; therefore this issue is addressed within recreation pressure.

3.16 A risk-based approach involving the application of the precautionary principle has been adopted in the assessment, such that a conclusion of 'no significant effect' will only be reached where it is considered very unlikely, based on current knowledge and the information available, that a proposal in the AAP would have a significant effect on the integrity of a European site.

### Interpretation of 'likely significant effect'

3.17 Relevant case law helps to interpret when effects should be considered as being likely to result in a significant effect, when carrying out HRA of a Plan.

3.18 In the Waddenzee case<sup>24</sup>, the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats

<sup>21</sup> [www.jncc.defra.gov.uk](http://www.jncc.defra.gov.uk)

<sup>22</sup> <http://publications.naturalengland.org.uk/category/5458594975711232>

<sup>23</sup> <http://publications.naturalengland.org.uk/category/6490068894089216>

<sup>24</sup> European Court of Justice in Case C-127/02 Landelijke Vereniging tot Behoud van de Waddenzee

Directive (translated into Reg. 102 in the Habitats Regulations), including that:

- An effect should be considered 'likely', "if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site" (para 44).
- An effect should be considered 'significant', "if it undermines the conservation objectives" (para 48).
- Where a plan or project has an effect on a site "but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned" (para 47).

3.19 An opinion delivered to the Court of Justice of the European Union<sup>25</sup> commented that:

*"The requirement that an effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on the site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill."*

3.20 This opinion (the 'Sweetman' case) therefore allows for the authorisation of plans and projects whose possible effects, alone or in combination, can be considered 'trivial' or de minimis; referring to such cases as those "which have no appreciable effect on the site". In practice such effects could be screened out as having no likely significant effect; they would be 'insignificant'.

#### **In-combination effects**

3.21 Regulation 102 of the Amended Habitats Regulations 2017 requires an Appropriate Assessment where "a land use plan is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with or necessary to the management of the site". Therefore, it is necessary to consider whether any impacts identified from the AAP may combine with other plans or projects to give rise to significant effects in combination. This is considered further in **Chapter 4**.

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<sup>25</sup> Advocate General's Opinion to CJEU in Case C-258/11 Sweetman and others v An Bord Pleanála 22nd Nov 2012.

# Chapter 4

## Screening Findings

### HRA Screening of Policies

4.1 A review of the preferred policy approaches in the AAP has been undertaken in order to identify which will result in development that could have likely significant effects on the European sites that are the focus of this HRA. **Appendix C** presents the screening matrices for the AAP policies.

#### Policies with no likely significant effects

4.2 The majority of the preferred policy approaches, as well as the draft vision and objectives for the AAP, are not expected to have significant effects on European sites because they will not result directly in new development. This applies to the following preferred policy approaches:

- Preferred Policy Approach 1 – Key Development Principles
- Preferred Policy Approach 3 – Spatial Framework
- Preferred Policy Approach 4 – High Quality Design
- Preferred Policy Approach 6 – Long-term maintenance and stewardship
- Preferred Policy Approach 7 – Adopting healthy place shaping principles
- Preferred Policy Approach 8 – Social Integration and Inclusion
- Preferred Policy Approach 9 – Providing opportunities for healthy active play and leisure
- Preferred Policy Approach 10 – Green Infrastructure
- Preferred Policy Approach 11 – Enabling healthy food choices
- Preferred Policy Approach 12 – Achieving 25% Biodiversity Net Gain
- Preferred Policy Approach 15 – Heritage Assets
- Preferred Policy Approach 17 – Housing Mix
- Preferred Policy Approach 18 – Build to Rent
- Preferred Policy Approach 19 – Self/Custom Build Housing
- Preferred Policy Approach 20 – Specialist Housing Needs



- Preferred Policy Approach 24 – Employment Skills and Training
- Preferred Policy Approach 28 – Public Transport
- Preferred Policy Approach 29 – Making Effective use of the Transport Network
- Preferred Policy Approach 30 – Changing Transport Trends and Technologies
- Preferred Policy Approach 31 – Flexibility, Durability and Adaptability
- Preferred Policy Approach 32 – Sustainable Construction
- Preferred Policy Approach 33 – Decentralised, Renewable and Low Carbon Energy
- Preferred Policy Approach 34 – Towards Zero Waste

4.3 A number of the other Preferred Policy Approaches in the AAP would not result in development and also include avoidance measures which could help mitigate the potential effects of the OCGV development. This is the case for the following Preferred Policy Approaches:

- Preferred Policy Approach 13 – Water Environment
- Preferred Policy Approach 14 – Environmental Assets
- Preferred Policy Approach 23 – Homeworking/ Telecommuting
- Preferred Policy Approach 25 – Reducing the Overall Need to Travel
- Preferred Policy Approach 26 – Reducing Dependency on the Private Car
- Preferred Policy Approach 27 – Active and Healthy Travel

4.4 In line with the People over Wind judgement, the potential mitigation provided by these policies has not been taken into account during the Screening stage of the HRA and will instead be considered as part of the Appropriate Assessment.

#### Possible Likely Significant Effects

4.5 The following policies are identified as resulting in development and Likely Significant Effects on European sites cannot therefore be ruled out:

- Preferred Policy Approach 2 – Quantum and Mix of Uses
- Preferred Policy Approach 5 – Provision of Supporting Infrastructure
- Preferred Policy Approach 16 – Housing Delivery

- Preferred Policy Approach 21 – New Business Space
- Preferred Policy Approach 22 - Small-Scale Commercial Opportunities and Flexible Business Space

#### HRA Screening by Impact

4.6 The likelihood of the European sites included in this Screening exercise being significantly affected by development proposed within the OCGV site and according to the AAP policies is set out below by the broad categories of impact considered. **Table 4.1** at the end of this section summarises the Screening Conclusions for each European site in relation to these broad types of impact.

#### Physical damage and loss

4.7 Any development resulting from the AAP would take place within the OCGV site boundary; therefore only European sites within the OCGV boundary could be affected through direct physical damage or loss of habitat from within the site boundaries. No European sites lie within the OCGV site boundary and **therefore direct impacts from physical damage and loss can be screened out from the assessment.**

4.8 Habitat loss from development in areas outside of European site boundaries may also result in likely significant effects where that habitat contributes towards maintaining the interest feature for which the European site is designated (generally referred to as 'functionally linked habitats'). This includes land or waterbodies which may provide offsite movement corridors or feeding and sheltering habitat for mobile species such as bats, birds and fish.

4.9 Both Oxford Meadows SAC and Cothill Fen SAC have been screened out from further assessment on the basis of distance from the AAP and/or because their qualifying features do not include transient species and are therefore not susceptible to off-site habitat loss.

**No Likely Significant Effects are therefore predicted as a result of physical damage and loss of habitat at any European sites, either alone or in-combination.**

#### Non-physical disturbance

4.10 Noise and vibration effects, e.g. during the construction of new housing or employment development, are most likely to disturb bird species and are thus a key consideration with respect to European sites where birds are the qualifying features, although such effects may also impact upon some mammals and fish species. Artificial lighting at night (e.g. from street lamps, flood lighting and security lights) has the potential to affect nocturnal qualifying features (such as bats)

where it occurs in close proximity to key habitat areas. Impacts associated with human presence have been covered within the 'recreation' assessment below.

4.11 It has been assumed that the effects of noise, vibration and light are most likely to be significant within a distance of 500 metres of either the European site boundary or known areas of functionally linked habitats. There is also evidence of 300 metres being used as a distance up to which certain bird species can be disturbed by the effects of noise<sup>26</sup>; however, it has been assumed (on a precautionary basis) that the effects of noise, vibration and light pollution are capable of causing an adverse effect if development takes place within 500 metres of a European site with qualifying features sensitive to these disturbances.

4.12 All European sites were screened out of the assessment as they do not support qualifying species that are susceptible to impacts from non-physical disturbance.

**No Likely Significant Effects are predicted as a result of non-physical disturbance at any European sites, either alone or in-combination.**

#### Non-toxic contamination

4.13 Habitats can be subject to non-toxic contamination, such as nutrient enrichment, changes in salinity and smothering from dust, due to industrial action, agriculture, construction and water abstraction and discharge. European sites with the potential to be affected by non-toxic contamination are likely to be sites that lie within close proximity of, or those that are hydrologically connected to, areas of development provided for by the plan. Potential changes to water quantity and quality are separately considered below.

4.14 No European sites lie within or adjacent to the area covered by the AAP and therefore all European sites can be screened out of the assessment.

**No Likely Significant Effects are predicted as a result of non-toxic contamination at any European sites, either alone or in-combination.**

#### Air pollution

4.15 Air pollution is most likely to affect European sites where plant, soil and water habitats are the qualifying features, but some qualifying animal species may also be affected, either directly or indirectly, by deterioration in habitat as a result of air pollution. Deposition of pollutants to the ground and

vegetation can alter the characteristics of the soil, affecting the pH and nitrogen levels, which can then affect plant health, productivity and species composition.

4.16 In terms of vehicle traffic, nitrogen oxides (NO<sub>x</sub>, i.e. NO and NO<sub>2</sub>) are considered to be the key pollutants. Deposition of nitrogen compounds may lead to both soil and freshwater acidification, and NO<sub>x</sub> can cause eutrophication of soils and water.

4.17 Based on the Highways Agency Design Manual for Road and Bridges (DMRB) Manual Volume 11, Section 3, Part 114 (which was produced to provide advice regarding the design, assessment and operation of trunk roads including motorways), it is assumed that air pollution from roads is unlikely to be significant beyond 200m from the road itself. Where increases in traffic volumes are forecast, this 200m buffer needs to be applied to the relevant roads in order to make a judgement about the likely geographical extent of air pollution impacts.

4.18 The DMRB Guidance for the assessment of local air quality in relation to highways developments provides criteria that should be applied at the Screening Stage of an assessment of a plan or project, to ascertain whether there are likely to be significant impacts associated with routes or corridors. Based on the DMRB guidance, affected roads which should be assessed are those where:

- Daily traffic flows will change by 1,000 AADT (Annual Average Daily Traffic) or more; or
- Heavy duty vehicle (HDV) flows will change by 200 AADT or more; or
- Daily average speed will change by 10 km/hr or more; or
- Peak hour speed will change by 20 km/hr or more; or
- Road alignment will change by 5 m or more.

4.19 Where significant increases in traffic are possible on roads within 200m of European sites, traffic forecast data may be needed to determine if increases in vehicle traffic are likely to be significant. In line with the Wealden judgment<sup>27</sup>, the traffic growth considered by the HRA should be based on the effects of development provided for by the AAP in combination with other drivers of growth such as development proposed in neighbouring districts and demographic change.

4.20 It has been assumed that only those roads forming part of the primary road network (motorways and 'A' roads) are likely to experience any significant increases in vehicle traffic as a result of development (i.e. greater than 1,000 AADT). As such, where a European site is within 200m of only minor

<sup>26</sup> British Wildlife Magazine. October 2007

<sup>27</sup> Wealden v SSCLG [2017] EWHC 351 (Admin)

roads, no significant effect from traffic-related air pollution is considered to be the likely outcome.

4.21 The key commuting corridor for new housing and employment development will include the A40, A44, A34, A4144, A420, and A4142. Oxford Meadows SAC is within 200m of the A34 and A40.

4.22 Oxfordshire County Council has commissioned traffic modelling work which, once the outputs are available, will be used to inform this HRA. We understand the work will identify the predicted increases in AADT along the A40 as a result of the OCGV development as well as other planned growth in the County and will be used to inform decision making with regards to the significance of those increases.

4.23 Cothill Fen SAC is situated more than 200m from a strategic road and is therefore screened out of the assessment.

**Likely Significant Effects relating to increased air pollution from the AAP are not able to be screened out in relation to Oxford Meadows SAC and will require further consideration at the Appropriate Assessment stage to determine whether increased air pollution as a result of the AAP will result in adverse effects, either alone or in-combination.**

**Likely Significant Effects on other European sites as a result of increased air pollution from vehicle traffic can be screened out of the assessment.**

### Recreation

4.24 Recreational activities and human presence can result in significant effects on European sites as a result of erosion, trampling and introduction of non-native species, as well as associated impacts such as fire and vandalism or disturbance to sensitive features, such as birds through both terrestrial and water-based forms of recreation. Recreation can physically damage habitat as a result of trampling and the use of vehicles and also through erosion associated with water-based activities such as boat wash and terrestrial activities, such as use of vehicles.

4.25 The AAP will result in housing growth and associated population increase within West Oxfordshire and specifically within the garden village location north of Eynsham. Where increases in population are likely to result in significant increases in recreation at a European site which is vulnerable to disturbance, or habitat damage by human presence, either alone or in-combination, the potential for likely significant effects will require assessment.

4.26 Cothill Fen SAC is screened out of the assessment as the qualifying features are not considered to be vulnerable to increases in recreation.

4.27 While Oxford Meadows SAC could be susceptible to increased recreational use (either through contamination from dog fouling or introduction of non-native species from walkers' boots), the HRA that was undertaken for the Oxford City Local Plan<sup>28</sup> identified a distance of 1.9km around the SAC within which new development could have impacts associated with increased dog walking. The OCGV AAP area is more than 1.9km from the SAC and the A40 lies between the OCGV site and the SAC, meaning that the SAC is not considered to be a likely destination for dog walkers from the OCGV. Recreational impacts on the Oxford Meadows SAC are therefore screened out of this HRA.

**Likely Significant Effects on all European sites as a result of recreation pressure can be screened out of the assessment.**

### Water quantity and quality

4.28 An increase in demand for water abstraction and treatment resulting from the growth proposed in the AAP could result in changes in hydrology at European sites. Depending on the qualifying features and particular vulnerabilities of the European sites, this could result in likely significant effects; for example due to changes in environmental or biotic conditions, water chemistry and the extent and distribution of preferred habitat conditions. To fully understand the potential impacts of proposed development on European sites a review of relevant Water Cycle Studies (WCS) was undertaken to inform the West Oxfordshire Local Plan HRA 2018<sup>29</sup>.

4.29 Oxford Meadows SAC is directly linked to waterbodies within the OCGV site via the River Thames and smaller tributaries which adjoin it. Therefore, changes in water quantity and quality through increased demand for water supply and increased wastewater discharges is potentially a key issue for this site.

4.30 A water cycle study<sup>30</sup> was carried out in 2016 to inform the preparation of the West Oxfordshire Local Plan 2031 HRA (undertaken by AECOM<sup>20</sup>), in order to ensure that the proposed growth within the district did not have an impact on water quality or quantity.

4.31 The water cycle study concluded that there was sufficient capacity for development within the water catchment

<sup>28</sup> Levett-Therivel (September 2018) Oxford Local Plan 2036 Habitats Regulations Assessment: Appropriate Assessment.

<sup>29</sup> AECOM (2019) West Oxfordshire Local Plan: Habitats Regulations Assessment incorporating Appropriate Assessment

<sup>30</sup> AECOM (2019) West Oxfordshire Scoping Water Cycle Study - Final

area in which the Oxford Meadows SAC is situated, sufficient capacity to cope with increased wastewater as a result of the OCGV, and that there would be no adverse effects on the qualifying features or overall integrity of the site. Therefore the Oxford Meadows SAC can be screened out from this assessment.

4.32 Cothill Fen SAC is also screened out as there is no hydrological connectivity with the OCGV site.

**No Likely Significant Effects on any European sites are predicted as a result of water quality and quantity changes as a result of the AAP either alone or in-combination.**

account of increased flows along the A40 from other development as well as the OCGV; therefore in-combination effects will be addressed in this manner.

## Summary of Screening Conclusions

4.33 HRA screening of the OCGV AAP has been undertaken in accordance with available guidance and based on a precautionary approach.

4.34 As shown in **Table 4.1** below, the findings of the HRA Screening exercise have determined that likely significant effects cannot be ruled out, and therefore Appropriate Assessment needs to be undertaken, in relation to air pollution at Oxford Meadows SAC. This likely significant effect could occur as a result of the following preferred policy approaches: Quantum and Mix of Uses (PP2), Provision of Supporting Infrastructure (PP5), Housing Delivery (PP16), New Business Space (PP21), and Small-Scale Commercial Opportunities and Flexible Business Space (PP22).

## In-combination effects

4.35 Likely significant effects in relation to physical damage and loss of habitat, non-physical disturbance, non-toxic contamination and increased recreation pressure in-combination with other plans and projects can be ruled out because, as described earlier in this chapter, the AAP will not affect European sites in these ways.

4.36 In relation to water quality and quantity, as described earlier in this chapter, the AAP is not expected to have likely significant effects on any European sites. The Water Cycle Study that helped to inform this conclusion examines the impacts of other growth, not just the OCGV, and an assessment of in-combination effects on water quality and quantity has therefore been effectively carried out through that study.

4.37 In relation to air pollution, as described earlier in this chapter, the AAP could result in a likely significant effect on Oxford Meadows SAC as a result of increased vehicle traffic along the A40. The forthcoming traffic data, which will be used to inform the Appropriate Assessment, is expected to take

Table 4.1: Summary of Screening Findings by Type of Impact

	Physical damage/loss of habitat	Non-physical disturbance	Non-toxic contamination	Air pollution	Recreation pressure	Water quantity and quality
Oxford Meadows SAC	No LSE	No LSE	No LSE	LSE	No LSE	No LSE
Cothill Fen SAC	No LSE	No LSE	No LSE	No LSE	No LSE	No LSE
North Meadow & Clattinger Farm SAC	No LSE	No LSE	No LSE	No LSE	No LSE	No LSE
Hackpen Hill SAC	No LSE	No LSE	No LSE	No LSE	No LSE	No LSE
Little Wittenham SAC	No LSE	No LSE	No LSE	No LSE	No LSE	No LSE
River Lambourn SAC	No LSE	No LSE	No LSE	No LSE	No LSE	No LSE

## Chapter 5

### Consultation and Next Steps

5.1 This HRA Screening report has concluded that likely significant effects on the integrity of European sites around West Oxfordshire and neighbouring districts from preferred policy approaches in the AAP will not occur in relation to:

- Physical loss or damage to on- or off-site habitat;
- Non-physical disturbance;
- Non-toxic contamination;
- Water quality/quantity; and
- Recreation pressure.

5.2 However, there could be likely significant effects on Oxford Meadows SAC in relation to increased air pollution.

5.3 Therefore, this potential likely significant effect will need to be considered further through an Appropriate Assessment to determine whether the AAP will affect the integrity of the SAC.


5.4 The HRA report will be updated as required throughout the preparation of the AAP, with the HRA report relating to each iteration of the AAP being published during consultation periods. Specific consultation will be undertaken with Natural England throughout as the statutory consultation body for HRA.

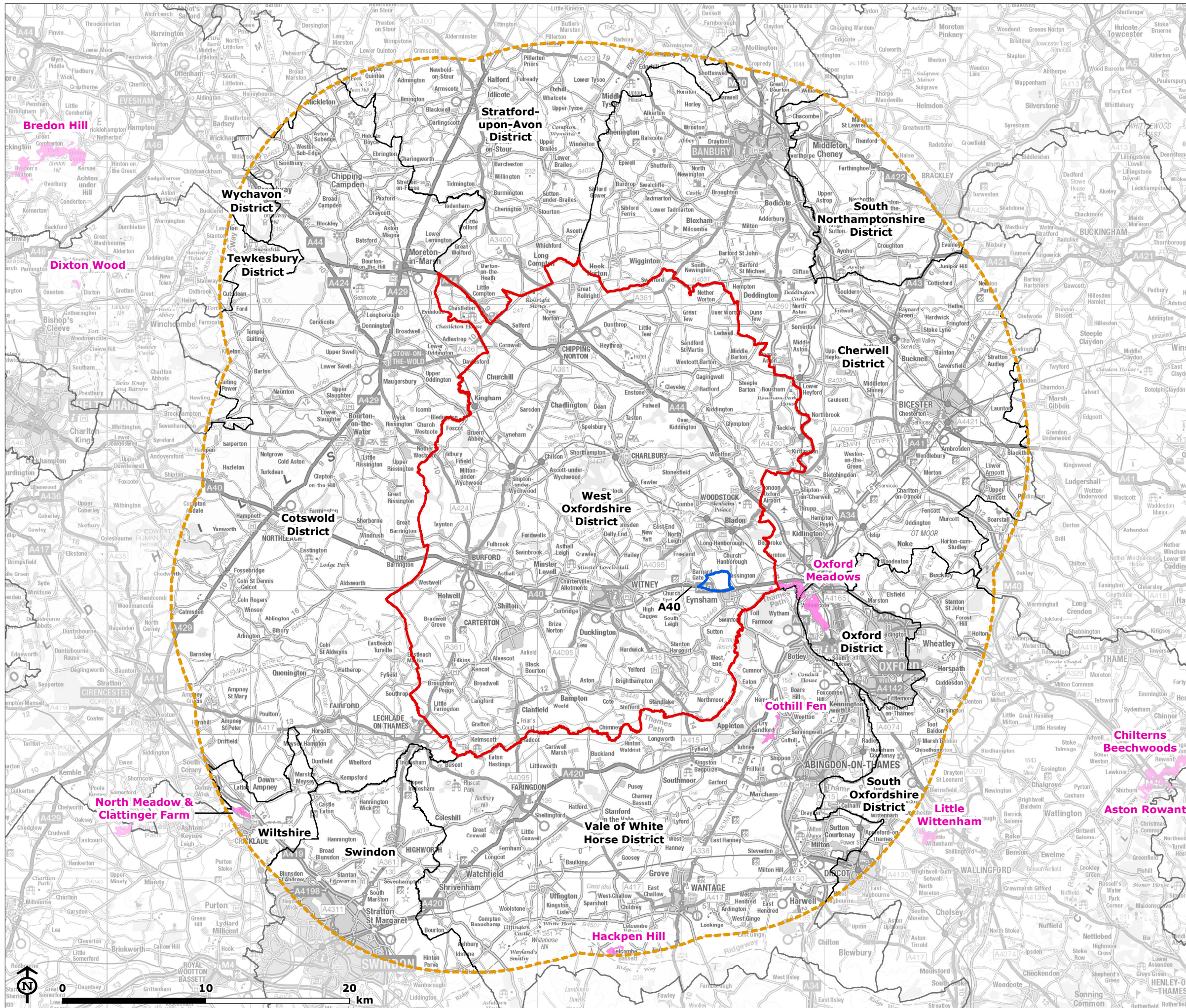
## **Appendix A**

### **Map of European Sites within 15km of West Oxfordshire Local Authorities**

# Oxfordshire Cotswold Garden Village AAP HRA

Figure 1: European sites within 15km of West Oxfordshire District

-  West Oxfordshire District Boundary
-  15km Boundary Buffer
-  District Boundaries
-  Garden Village Boundary
-  Special Areas of Conservation



Map Scale @A3: 1:260,000





## **Appendix B**

### **Attributes of European Sites**

European site	Area (ha)	Location in relation to the OCGV site	Qualifying features	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend	Key vulnerabilities and environmental conditions to support site integrity
Within West Oxfordshire					
Oxford Meadows SAC	265.89	2.5km east with the majority of the site within the Cherwell and Oxford districts	<u>Annex 1 Habitats</u> Lowland hay meadows Creeping marshwort <i>Apium repens</i>	<u>Lowland hay meadows</u> The habitat is maintained through annually cutting for hay, with light aftermath grazing, seasonal flooding maintains an input of nutrients. Therefore, conservation measures for this feature will typically include grazing, cutting, scrub management, weed control, recreation/visitor management. Along with the maintenance of surface drainage features such as grips, gutters and foot drains, and retention of suitable land use infrastructure/patterns to enable site management e.g. pastoral livestock farming.  <u>Creeping marshwort <i>Apium repens</i></u> This species relies on damp and sparsely vegetated grasslands which are nutrient-rich and susceptible to winter flooding. This species requires periodic disturbance which can be achieved through cattle grazing or the seasonal flooding. This is to reduce competition for light as this species is a low-growing clonal perennial.	<p><i>The conservation objective is to 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.</i></p> <p><i>Subject to natural change, maintain or restore:</i></p> <ul style="list-style-type: none"> <li>■ the extent and distribution of habitats of qualifying species;</li> <li>■ The structure and function (including typical species) of qualifying natural habitats</li> <li>■ The structure and function of the habitats of qualifying species</li> <li>■ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</li> <li>■ The populations of qualifying species, and,</li> <li>■ The distribution of qualifying species within the site."</li> </ul> <p>Key priorities and threats include:</p> <ul style="list-style-type: none"> <li>■ Hydrological changes;</li> <li>■ Invasive species such as <i>Crassula</i></li> <li>■ Water quality</li> </ul> <p><i>The associated SSSI is predominantly in a favourable condition, with a small portion in an unfavourable condition but is recovering.</i></p>
Outside of West Oxfordshire:					
Cothill Fen SAC	43.55	9.3km south within the Valley of the White Horse	<u>Annex 1 Habitats</u> Alkaline Fens Alluvial forests with Alnus	<u>Alkaline Fens</u> This habitat relies on calcium-rich, waterlogged soils which generally support a varied assemblage of mosses and floral	<p><i>The conservation objective is to ensure that the integrity of the site is maintained or restored as appropriate and ensure that the site contributes to achieving the Favourable Conservation</i></p>

European site	Area (ha)	Location in relation to the OCGV site	Qualifying features	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend	Key vulnerabilities and environmental conditions to support site integrity
		district	glutinosa and Fraxinus excelsior; Alder woodland on floodplains	<p>species. These conditions have been achieved due to hydrological changes within the site's unique geology. The SAC contains one of the largest surviving examples of alkaline fen in the UK, and has been managed through moderate mowing or grazing with arisings removed to prevent nutrient enrichment, peat digging and creation of ponds. The SAC supports black bog-rush – blunt flowered rush <i>Schoenus nigricans</i> – <i>Juncus subnodulosus</i>, bottle sedge <i>Carex rostrata</i>, grass-of-Parnassus <i>Parnassia palustris</i>, common butterwort <i>Pinguicula vulgaris</i> and marsh helleborine <i>Epipactis palustris</i>.</p> <p><u>Alluvial forests</u></p> <p>The alkaline fens have transitioned into wet alder <i>Alnus glutinosa</i> woodland which are characteristicly found within floodplains. They often then transition further into dry woodlands. Alluvial forests typically support a varied community assemblage given the transitional conditions, comprising tall herb, reed and sedge species to marshy and lo-growing species. This habitat has become fragmented within the UK due to riverine woodland clearances.</p>	<p><i>Status of its Qualifying Features.</i></p> <p><i>Subject to natural change, maintain or restore:</i></p> <ul style="list-style-type: none"> <li>■ the extent and distribution of habitats of qualifying species;</li> <li>■ the structure and function (including typical species) of qualifying natural habitats; and,</li> <li>■ the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely.</li> </ul> <p>The key priorities and issues facing this site include:</p> <ul style="list-style-type: none"> <li>■ Water quality and quantity</li> <li>■ Air pollution</li> </ul> <p><u><i>The associated SSSI is predominantly in a favourable condition, with the remainder in an unfavourable condition but recovering.</i></u></p>
North Meadow & Clattinger Farm SAC	105.23	Two SSSI components, both within Wiltshire:  North Meadow is located 44km south-west.  Clattinger farm is located 36.4km south-west.	<u>Annex 1 Habitats:</u>  Lowland hay meadows ( <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> )	<u>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>)</u>  The habitat is maintained through annually cutting for hay, with light aftermath grazing, seasonal flooding maintains an input of nutrients. Therefore, conservation measures for this feature will typically include grazing, cutting, scrub management, weed control, recreation/visitor management. Along with the maintenance of surface drainage features such as grips, gutters and foot drains, and retention of suitable land use infrastructure/patterns to enable site management e.g. pastoral livestock farming.	<u>Supplementary Advice</u>  "As an NNR a significant amount of management at North Meadow is focused on managing visitor pressure, especially during fritillary flowering season, in order to balance conservation of the characteristic flora whilst allowing it to be accessible to the public."  "In recent years, both [SSSI] sites have suffered prolonged periods of flooding which has threatened the continuation of traditional meadow management, particularly at North Meadow. The underlying shallow gravel deposits and adjacent watercourses at both sites present challenges for future management in the context of expected changes in climatic conditions."

Appendix B  
 Attributes of European Sites  
 Oxfordshire's Cotswold Garden Village  
 December 2019

European site	Area (ha)	Location in relation to the OCGV site	Qualifying features	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend	Key vulnerabilities and environmental conditions to support site integrity
					<p><u>The conservation objectives</u></p> <p><i>“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;</i></p> <ul style="list-style-type: none"> <li>■ The extent and distribution of qualifying natural habitats</li> <li>■ The structure and function (including typical species) of qualifying natural habitats, and</li> <li>■ The supporting processes on which qualifying natural habitats rely”</li> </ul> <p><u>Natural England’s Site Improvement Plan</u></p> <p>Key priorities and issues facing this site are:</p> <ul style="list-style-type: none"> <li>■ Inappropriate water levels</li> <li>■ Habitat fragmentation</li> <li>■ Commons management</li> <li>■ Public Access/Disturbance</li> <li>■ Water Pollution</li> </ul> <p><u>Associated SSSI units are favourable.</u></p>
Hackpen Hill SAC	35.57	Located 25km south within Oxfordshire County.	<p><u>Annex 1 Habitats:</u></p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</p>	<p><u>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)</u></p> <p>The habitat is dependent upon regular grazing management and maintenance of low nutrient levels. The retention of this variation is achieved through good pasture management, avoidance of the use of fertilisers (including organic manures) and avoidance of sward damage such as through excessive grazing. Areas of adjacent undeveloped land may also be of</p>	<p><u>Supplementary Advice</u></p> <p><i>“The site is mapped as ‘Access Land’ which means that the public have a right to access the area on foot.”</i></p> <p><u>The conservation objectives</u></p> <p><i>“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</i></p>

European site	Area (ha)	Location in relation to the OCGV site	Qualifying features	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend	Key vulnerabilities and environmental conditions to support site integrity
			<p><u>Annex 2 Species:</u></p> <p>Early gentian <i>Gentianella anglica</i></p>	<p>importance in protecting the habitat from damaging influences such as pesticide drift, nutrient enrichment or recreational pressure.</p> <p>The maintenance of the abundance of the typical species listed below will enable each of them to be a viable component of the Annex 1 habitat:</p> <p>Constant and preferential plant species of CG3 <i>Bromus erectus</i> grassland NVC community which is the main component of the H6210 feature within the SAC</p> <p>Vascular plant assemblage including Early gentian <i>Gentianella anglica</i>; Chalk milkwort <i>Polygala calcarea</i>; Frog orchid <i>Coeloglossum viride</i>; Henbane <i>Hyoscyamus niger</i>; Slender bedstraw <i>Galium pumilum</i></p> <p>Lepidoptera populations including Chalkhill blue <i>Polyommatus coridon</i>; Brown argus <i>Aricia agestis</i>; Dingy skipper <i>Erynnis tages</i> and chalk carpet <i>Scotopteryx bipunctaria</i></p> <p>The soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with this Annex 1 feature. The concentrations and deposition of air pollutants are to be maintained at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System.</p> <p><u>Early gentian <i>Gentianella anglica</i></u></p> <p>This is an annual or short-lived perennial plant which is restricted to calcareous soils, it is dependent upon low levels of competition from surrounding vegetation. Early gentian is intolerant of shading and is usually restricted to warm, sunny, locations. Generally short-grazed and have exposed, bare soil present as small patches interspersed through the turf.</p> <p>Therefore, to remain suitable grasslands generally require moderate to heavy grazing and/or trampling to keep them sufficiently short and open. Grazing may be by rabbits and/or sheep or cattle.</p>	<p><u>Features, by maintaining or restoring;</u></p> <ul style="list-style-type: none"> <li>■ The extent and distribution of qualifying natural habitats and habitats of qualifying species</li> <li>■ The structure and function (including typical species) of qualifying natural habitats</li> <li>■ The structure and function of the habitats of qualifying species</li> <li>■ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</li> <li>■ The populations of qualifying species, and,</li> <li>■ The distribution of qualifying species within the site."</li> </ul> <p><u>Natural England's Site Improvement Plan</u></p> <p>No current issues affecting the Natura 2000 features have been identified on this site. Whilst no current issues affecting the Natura 2000 features have been highlighted future population increased surrounding this European Site could result in recreational pressure and disturbance/trampling.</p> <p><u>Associated SSSI unit is favourable.</u></p>

European site	Area (ha)	Location in relation to the OCGV site	Qualifying features	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend	Key vulnerabilities and environmental conditions to support site integrity
River Lambourn SAC	28.78	A long thin site, 32km south at the closest point and within West Berkshire.	<p><u>Annex 1 Habitats:</u></p> <p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation</p> <p><u>Annex 2 Species:</u></p> <p>Bullhead <i>Cottus gobio</i></p> <p>Brook lamprey <i>Lampetra planeri</i> – present but not a primary reason for site selection</p>	<p><u>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation</u></p> <p>This habitat type is characterised by the abundance of water-crowfoots <i>Ranunculus spp.</i>, subgenus <i>Batrachium</i> (<i>Ranunculus fluitans</i>, <i>R. penicillatus ssp. penicillatus</i>, <i>R. penicillatus ssp. pseudofluitans</i>, and <i>R. peltatus</i> and its hybrids). Watercourses with a high degree of naturalness are governed by dynamic processes which result in a mosaic of characteristic physical habitats or biotopes, including a range of substrate types, variations in flow, channel width and depth, in-channel and side-channel sedimentation features (including transient exposed sediments), bank profiles (including shallow and steep slopes), erosion features (such as vertical bank edges) and both in-channel and bankside (woody and herbaceous) vegetation cover. All of these biotopes, and their characteristic patterns within the river corridor, are important to the full expression of the biological community.</p> <p><u>Bullhead <i>Cottus gobio</i></u></p> <p>Habitat – Small, bottom-dwelling fish which is mostly associated with lowland streams. It is dependent upon good water quality, and good quality habitat conditions which provide critical features such as stones on the river bed, submerged tree roots, woody debris dams and macrophyte beds for shelter, feeding and egg-laying.</p> <p>Diet - Generally, crustaceans (particularly <i>Gammarus spp.</i> and <i>Asellus spp.</i>) are taken in the winter months, and a wide range of insect larvae in the summer.</p> <p><u>Brook lamprey <i>Lampetra planeri</i></u></p> <p>Habitat – Their location is dependent upon the availability of features typical of natural rivers including the absence of barriers to upstream and downstream movement, gravel beds for spawning, silt beds to support the larval stage, good water quality and low levels of abstraction. During the larval stage, which may last up to 7 years, brook lamprey live submerged in deposits of sediment on the bed of the river.</p>	<p><u>The conservation objectives</u></p> <p>“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;</p> <ul style="list-style-type: none"> <li>■ The extent and distribution of qualifying natural habitats and habitats of qualifying species</li> <li>■ The structure and function (including typical species) of qualifying natural habitats</li> <li>■ The structure and function of the habitats of qualifying species</li> <li>■ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</li> <li>■ The populations of qualifying species, and,</li> <li>■ The distribution of qualifying species within the site.”</li> </ul> <p><u>Natural England's Site Improvement Plan</u></p> <p>Key priorities and issues facing this site are:</p> <ul style="list-style-type: none"> <li>■ Siltation</li> <li>■ Invasive species</li> <li>■ Hydrological changes</li> <li>■ Inland flood defence Works</li> <li>■ Inappropriate cutting/mowing</li> <li>■ Change in land Management</li> <li>■ Inappropriate water Levels</li> <li>■ Hydrological changes</li> </ul>

Appendix B  
 Attributes of European Sites  
 Oxfordshire's Cotswold Garden Village  
 December 2019

European site	Area (ha)	Location in relation to the OCGV site	Qualifying features	Non-qualifying habitats and species upon which the qualifying habitats and/or species depend	Key vulnerabilities and environmental conditions to support site integrity
				<p>Diet - The larvae feed by filtering fine organic particles, especially diatoms and other algae, as well as protozoans and detritus, from the surface of the silt around the mouths of the burrows in which they spend virtually all their larval years. The adults do not feed after metamorphosis.</p>	<ul style="list-style-type: none"> <li>■ Water Pollution</li> </ul> <p><u>Associated SSSI is unfavourable recovering.</u></p>
<p>Little Wittenham SAC</p>	<p>69.76</p>	<p>21.4km south-east within South Oxfordshire</p>	<p><u>Annex 2 Species</u>            Great Crested Newt <i>Triturus cristatus</i></p>	<p><u>Great Crested Newt <i>Triturus cristatus</i></u>            Habitat – This species requires waterbodies with aquatic vegetation for breeding. They do not require high water quality, and ponds tend to be the most favourable option. Ponds without abundant weed and fish are preferred. They additionally rely on terrestrial habitat such as woodland, scrub and rough grassland for feeding and commuting purposes. Connectivity between waterbodies are key for the distribution and survival of this species.            Diet - This species diet comprises predominantly of aquatic and terrestrial invertebrates, and tadpoles.</p>	<p><i>The conservation objective is to 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.</i></p> <p><i>Subject to natural change, maintain or restore:</i></p> <ul style="list-style-type: none"> <li>■ the extent and distribution of habitats of qualifying species;</li> <li>■ The structure and function (including typical species) of qualifying natural habitats</li> <li>■ The structure and function of the habitats of qualifying species</li> <li>■ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely</li> <li>■ The populations of qualifying species, and,</li> <li>■ The distribution of qualifying species within the site.”</li> </ul> <p>Key priorities and issues facing this site include:</p> <ul style="list-style-type: none"> <li>■ The impacts of public access and disturbance</li> <li>■ Invasive fish species which may impact the Great Crested Newt population</li> </ul> <p><u><i>The associated SSSI is currently in a favourable condition</i></u></p>

## **Appendix C**

### **HRA Screening Matrices for the Oxfordshire Cotswold Garden Village AAP**



**Table C.1 Preferred Policy Approaches with no pathway to European Sites**

Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal implemented	European site(s) potentially affected	Likely significant effect?
Preferred Policy Approach 1 – Key Development Principles	None – the policy itself will not lead to development, but sets out key development principles which all proposed development will be expected to comply with.	None	None	No LSE
Preferred Policy Approach 3 – Spatial Framework	None – the policy itself will not lead to development, but will determine the distribution and layout of development within the garden village site.	None	None	No LSE
Preferred Policy Approach 4 – High Quality Design	None – the policy itself will not lead to development, but sets out design requirements that all development will need to comply with.	None	None	No LSE
Preferred Policy Approach 6 – Long-term maintenance and stewardship	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 7 – Adopting healthy place shaping principles	None – the policy itself will not lead to development, but sets out principles of healthy place shaping which will apply to all development.	None	None	No LSE
Preferred Policy Approach 8 – Social Integration and Inclusion	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 9 – Providing opportunities for healthy active play and leisure	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 10 – Green Infrastructure	None – the policy itself will not lead to development. This policy will promote a high quality network of blue and green infrastructure throughout the village, which could potentially provide mitigation and enhancement measures for the proposed development (mitigation will be considered during the Appropriate Assessment as relevant).	None	None	No LSE

Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal implemented	European site(s) potentially affected	Likely significant effect?
Preferred Policy Approach 11 – Enabling healthy food choices	None – this policy will not result in development.	None	None	No LSE
Preferred Policy Approach 12 – Achieving 25% Biodiversity Net Gain	None – this policy will not result in development.	None	None	No LSE
Preferred Policy Approach 13 – Water Environment	None – the policy itself will not lead to development	None	None	No LSE
Preferred Policy Approach 14 – Environmental Assets	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 15 – Heritage Assets	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 17 – Housing Mix	None – the policy itself will not lead to development as it relates to the mix of housing. The quantum of housing to be provided is within the overall housing figure assessed under Preferred Policy Approach 2.	None	None	No LSE
Preferred Policy Approach 18 – Build to Rent	None – the policy itself will not lead to development as it relates to the <u>type</u> of housing to be provided. The quantum of housing to be provided is within the overall housing figure assessed under Preferred Policy Approach 2.	None	None	No LSE
Preferred Policy Approach 19 – Self/Custom Build Housing	None – although this policy proposes that at least 5% of the total number of proposed residential units are comprised of serviced plots for self and custom build housings; it relates to the <u>type</u> of housing whereas the quantum of housing to be provided is within the overall housing figure assessed under Preferred Policy Approach 2.	None	None	No LSE
Preferred Policy Approach 20 – Specialist	None – although this policy proposes the provision of specialised	None	None	No LSE

Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal implemented	European site(s) potentially affected	Likely significant effect?
Housing Needs	residential units; it relates to the <u>type</u> of housing whereas the quantum of housing to be provided is within the overall housing figure assessed under Preferred Policy Approach 2.			
Preferred Policy Approach 23 – Homeworking/Telecommuting	None – this policy itself will not result in development	None	None	No LSE
Preferred Policy Approach 24 – Employment Skills and Training	None – this policy itself will not result in development	None	None	No LSE
Preferred Policy Approach 25 – Reducing the Overall Need to Travel	None – this policy itself will not result in development	None	None	No LSE
Preferred Policy Approach 26 – Reducing Dependency on the Private Car	None – this policy itself will not result in development	None	None	No LSE
Preferred Policy Approach 27 – Active and Healthy Travel	None – this policy will not result in built development; rather it focuses on the provision of walking and cycle links which may help to reduce the level of vehicular traffic and reduce nitrogen deposition within the site (mitigation will be considered during the Appropriate Assessment as relevant).	None	None	No LSE
Preferred Policy Approach 28 – Public Transport	None – this policy itself will not result in development.	None	None	No LSE
Preferred Policy Approach 29 – Making Effective use of the Transport Network	None – this policy itself will not result in development.	None	None	No LSE
Preferred Policy Approach 30 – Changing Transport Trends and Technologies	None – this policy itself will not result in development	None	None	No LSE
Preferred Policy Approach 31 – Flexibility, Durability and Adaptability	None – this policy itself will not result in development	None	None	No LSE

Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal implemented	European site(s) potentially affected	Likely significant effect?
Preferred Policy Approach 32 – Sustainable Construction	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 33 – Decentralised, Renewable and Low Carbon Energy	None – the policy itself will not lead to development.	None	None	No LSE
Preferred Policy Approach 34 – Towards Zero Waste	None – the policy itself will not lead to development.	None	None	No LSE

**Table C.2 Plan policies with potential pathway to European Sites**

Local Plan Policy	Likely activities (operations) to result as a consequence of the proposal	Likely effects if proposal implemented (taking into account only those effects screened in within Chapter 4)	European site(s) potentially affected	Significant effect
Preferred Policy Approach 2 – Quantum and Mix of Uses	Development of 2,200 homes.	Increased vehicle traffic	Oxford Meadows SAC	LSE
Preferred Policy Approach 5 – Provision of Supporting Infrastructure	Development of transport infrastructure, schools, green and blue infrastructure, flood management and sewerage infrastructure to support delivery of the 2,200 homes.	Increased vehicle traffic	Oxford Meadows SAC	LSE
Preferred Policy Approach 16 – Housing Delivery	Development of 2,200 homes.	Increased vehicle traffic	Oxford Meadows SAC	LSE
Preferred Policy Approach 21 – New Business Space	Development of approximately 40 hectares for new business units.	Increased vehicle traffic (including commuters from elsewhere to access the site)	Oxford Meadows SAC	LSE
Preferred Policy Approach 22 – Small-Scale Commercial Opportunities and Flexible Business Space	Development of small-scale commercial and flexible business space.	Increased vehicle traffic.	Oxford Meadows SAC	LSE