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HRA of the Goring Neighbourhood Plan

Habitats Regulations Assessment Screening

HRA Screening Report
Prepared by LUC
April 2018

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1 Introduction

- 1.1 LUC has been commissioned by South Oxfordshire District Council to carry out a Habitats Regulations Assessment (HRA) of the Goring Neighbourhood Plan 2018-2033. This report presents the methodology and findings of the HRA screening stage.

Background

- 1.2 The Goring Neighbourhood Plan is a Neighbourhood Development Plan (NDP) that sets out policies and site allocations to guide future development within the village, to 2033. The NDP adds detail to the policies contained within the District-wide South Oxfordshire Local Plan and planning applications in Goring will be considered against both plans, once they are adopted.
- 1.3 South Oxfordshire District Council (SODC) is producing a new Local Plan for the District (the South Oxfordshire Local Plan 2011-2033 Publication Version, October 2017), which will replace its Local Plan 2011 and Core Strategy (2012). Once adopted, the Local Plan will set out policies and guidance for development of the District over the next 15 years (2018 to 2033, once published).
- 1.4 The NDP allocates sites to deliver 94 dwellings. Whilst the Submission version of the South Oxfordshire Local Plan proposes 140 new homes in Goring over the plan period, the NDP sets out why 94 is considered to be a more appropriate number of new dwellings.
- 1.5 The HRA of the NDP considers whether the plan could have a significant effect on the integrity of internationally important wildlife sites, either alone or in combination with other plans, including the South Oxfordshire Local Plan. The HRA of both the current Core Strategy and Submission version of the Local Plan have informed the HRA screening of the NDP, where applicable.

The requirements to undertake HRA of development plans

- 1.6 The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007 and updated in 2010¹ and again in 2012². These updates were consolidated into the Conservation of Habitats and Species Regulations 2017³.
- 1.7 The HRA refers to the assessment of the potential effects of a development plan on one or more European Sites, including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs):
- SPAs are classified under the European Council Directive “on the conservation of wild birds” (79/409/EEC; ‘Birds Directive’) for the protection of wild birds and their habitats (including particularly rare and vulnerable species listed in Annex 1 of the Birds Directive, and migratory species);
 - SACs are designated under the Habitats Directive and target particular habitats (Annex 1) and/or species (Annex II) identified as being of European importance.

¹ The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. HMSO Statutory Instrument 2007 No. 1843. From 1 April 2010, these were consolidated and replaced by the Conservation of Habitats and Species Regulations 2010 (SI No. 2010/490). Note that no substantive changes to existing policies or procedures have been made in the new version.

² The Conservation of Habitats and Species (Amendment) Regulations 2012. Statutory Instrument 2012 No. 1927.

³ The Conservation of Habitats and Species Regulations 2017. Statutory Instrument 2017 No. 1012

- 1.8 Currently, the Government also expects potential SPAs (pSPAs), candidate SACs (cSACs) and Ramsar sites to be included within the assessment⁴. 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). Sites of Community Importance (SCIs), which are sites that have been adopted by the European Commission but not yet formally designated by the government, must also be considered.
- 1.9 For ease of reference during HRA, these designations are collectively referred to as 'European sites', despite Ramsar designations being at the wider international level.
- 1.10 The overall purpose of the HRA is to conclude whether or not a proposal or policy, or whole development plan would adversely affect the integrity of the site in question. This is judged in terms of the implications of the plan for a site's 'qualifying features' (i.e. those Annex I habitats, Annex II species, and Annex I bird populations for which it has been designated). Significantly, HRA is based on the precautionary principle. Where uncertainty or doubt remains, an adverse effect should be assumed.

Stages of Habitats Regulations Assessment

- 1.11 **Table 1.1** below summarises the stages involved in carrying out a full HRA, based on various guidance documents^{5,6}. This HRA presents the methodology and findings of Stage 1: Screening.

Table 1.1 Stages in HRA

Stage	Task	Outcome
Stage 1: Screening (the 'Significance Test')	Description of the plan. Identification of potential effects on European Sites. Assessing the effects on European Sites (taking into account potential mitigation provided by other policies in the plan).	Where effects are unlikely, prepare a '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 (the 'Integrity Test')	Gather information (plan and European Sites). Impact prediction. Evaluation of impacts in view of conservation objectives. Where impacts considered to affect qualifying features, identify alternative options. Assess alternative options. If no alternatives exist, define and evaluate mitigation measures where necessary.	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 through, firstly, avoidance, and secondly, mitigation 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 and adverse impacts remain taking into account mitigation	Identify and demonstrate 'imperative reasons of overriding public interest' (IROPI). Demonstrate no alternatives exist. Identify potential compensatory	This stage should be avoided if at all possible. The test of IROPI and the requirements for compensation are extremely onerous.

⁴ Department of Communities and Local Government (March 2012) National Planning Policy Framework (para 118).

⁵ *Planning for the Protection of European Sites. Guidance for Regional Spatial Strategies and Local Development Documents.* Department for Communities and Local Government (DCLG), August 2006.

⁶ *The HRA Handbook.* David Tyldesley & Associates, a subscription based online guidance document: <https://www.dtapublications.co.uk/handbook/>

Stage	Task	Outcome
	measures.	

- 1.12 In assessing the effects of the NDP in accordance with Regulation 102 of the Conservation of Habitats and Species Regulations 2010, there are potentially two tests to be applied by the competent authority: a 'Significance Test', followed if necessary by an Appropriate Assessment, which will inform the 'Integrity Test'. The relevant sequence of questions is as follows:
- Step 1: Under Reg. 102(1)(b), consider whether the plan is directly connected with or necessary to the management of the sites. If not –
 - Step 2: Under Reg. 102(1)(a) consider whether the plan is likely to have a significant effect on the site, either alone or in combination with other plans or projects (the 'Significance Test'). [These two steps are undertaken as part of Stage 1: Screening shown in Table 1.1 above.] If Yes –
 - Step 3: Under Reg. 102(1), make an Appropriate Assessment of the implications for the site in view of its current conservation objectives (the 'Integrity Test'). In so doing, it is mandatory under Reg. 102(2) to consult Natural England, and optional under Reg. 102(3) to take the opinion of the general public. [This step is undertaken during Stage 2: Appropriate Assessment shown in Table 1.1 above.]
 - Step 4: In accordance with Reg.102(4), but subject to Reg.103, give effect to the land use plan only after having ascertained that the plan will not adversely affect the integrity of the European site.
- 1.13 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.
- 1.14 The HRA should be undertaken by the 'competent authority' - in this case SODC, and LUC has been commissioned to do this on its behalf. The HRA also requires close working with Natural England as the statutory nature conservation body⁷ in order to obtain the necessary information and agree the process, outcomes and any 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.

⁷ Regulation 5 of *The Conservation of Habitats and Species Regulations 2010*. HMSO Statutory Instrument 2010 No. 490.

2 Goring Neighbourhood Plan

- 2.1 The Goring Neighbourhood Plan 2018-2033 includes: an overall vision, supported by topic-specific visions; 15 objectives; 19 policies to deliver the Plan's objectives, including four site allocation policies; and ten actions, which are proposals and projects to deliver the Plan's vision and objectives, but that are not land-use based. The Plan also explains the context for the NDP, including the existing features and character of Goring, the policy context and how the Plan has been developed.

Summary of the Goring Neighbourhood Plan

- 2.2 The Plan's overall vision for Goring states:

"Goring must continue to be a friendly, open, vibrant and energetic village community that is able to evolve and develop whilst ensuring its beauty is maintained and enhanced in all areas for the benefit of the people who live and work in it."

- 2.3 The plan includes 19 policies to achieve the vision. These are as follows:

- Policy.01 – Number of dwellings to be allocated
- Policy.02 – Infill
- Policy.03 – Housing mix
- Policy.04 – Housing for the elderly
- Policy.05 – Affordable housing
- Policy.06 – Allocated Site GNP2
- Policy.07 – Allocated Site GNP3
- Policy.08 – Allocated Site GNP6
- Policy.09 – Allocated Site GNP10
- Policy.10 – Conserving and enhancing Goring's landscape
- Policy.11 – Conserve and enhance biodiversity
- Policy.12 – Light pollution
- Policy.13 – Air quality and pollution
- Policy.14 – Water, sewerage and drainage capacity
- Policy.15 – Building design principles
- Policy.16 – The historic environment
- Policy.17 – Open space, sport and recreation in new residential development
- Policy.18 – Adequate parking within new developments
- Policy.19 – Walking and cycling

- 2.4 The Plan allocates space for 94 dwellings across four sites under Policies 06, 07, 08 and 09.

3 HRA Screening Methodology

- 3.1 HRA screening of the NDP has been undertaken in line with current available guidance and seeks to meet the requirements of the Habitats Regulations. The tasks that have been undertaken during the screening stage of the HRA are described in detail below.

European sites which may be affected by the Neighbourhood Plan

- 3.2 The HRA of the South Oxfordshire Local Plan and the earlier Core Strategy have used a screening distance of 17km to identify European sites that could be affected by development from the plans. This distance has been subject to consultation with Natural England and reflects the average travel to work distance in the District. As such, the same screening distance has been applied in this HRA.
- 3.3 The following European sites lie wholly or partly within 17km of Goring Neighbourhood Development Plan Area, which coincides with the Parish of Goring-on-Thames:
- Hartslock Wood SAC (lies within the Neighbourhood Development Plan Area).
 - Aston Rowant SAC.
 - Kennet & Lambourn Floodplain SAC.
 - Little Wittenham SAC.
 - River Lambourn SAC.
- 3.4 Detailed information about the location, qualifying features and vulnerabilities of the European sites included in the assessment is presented in **Appendix 1**. The locations of the European sites are mapped in the figure overleaf

INSERT MAP

Assessment of 'likely significant effects' of the Neighbourhood Development Plan

- 3.5 As required under Regulation 105 of the Conservation of Habitats and Species Regulations 2017⁸ (the 'Habitats Regulations'), an assessment has been undertaken of the 'likely significant effects' of the NDP. Consideration has been given to the potential for the development proposed to result in significant effects associated with:
- Physical loss of/damage to habitat.
 - Non-physical disturbance e.g. noise/vibration or light pollution.
 - Air pollution.
 - Increased recreation pressure.
 - Changes to hydrological regimes.
- 3.6 The determination of which likely significant effects to include in the HRA screening of the NDP is consistent with those included in the HRA screening undertaken of the Local Plan.
- 3.7 A risk-based approach involving the application of the precautionary principle has been adopted in the assessment, such that a conclusion of 'no likely significant effect' has only been reached where it is considered very unlikely, based on current knowledge and the information available, that a proposal in the NDP would have a significant effect on the integrity of a European site.

Interpretation of 'likely significant effect'

- 3.8 Relevant case law helps to interpret when effects should be considered as a likely significant effect, when carrying out HRA of a land use plan.
- 3.9 In the Waddenzee case⁹, the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats Directive (translated into Reg. 105 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); and
 - 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).
- 3.10 A relevant opinion delivered to the Court of Justice of the European Union¹⁰ 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."*
- 3.11 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 "*that 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'.

⁸ SI No. 2017/1012

⁹ ECJ Case C-127/02 "Waddenzee" Jan 2004.

¹⁰ Advocate General's Opinion to CJEU in Case C-258/11 Sweetman and others v An Bord Pleanala 22nd Nov 2012.

Mitigation provided by the Neighbourhood Plan

- 3.12 The potential effects of a plan can sometimes be mitigated by policies within the plan itself, for example those aimed at reducing the impacts of car travel, which could help to mitigate potential effects associated with air pollution.
- 3.13 This potential mitigation has been taken into consideration during the screening process and has influenced the screening assumptions set out below and the screening conclusions (see **Chapter 44**). Where it has been possible to conclude that there would be no likely significant effects taking into account mitigation, then there is no need to carry out Appropriate Assessment (Stage 2 of the HRA process).

4 HRA Screening Assessment

Screening assumptions and information used in reaching conclusions about likely significant effects

- 4.1 For some types of impacts, screening for likely significant effects has been determined on a proximity basis, using GIS data to determine the proximity of potential development locations to the European sites that are the subject of the assessment. However, there are many uncertainties associated with using set distances as there are very few standards available as a guide to how far impacts will travel. Therefore, during the screening stage a number of assumptions have been applied in relation to assessing the likely significant effects on European sites that may result from the Neighbourhood Plan, as explained below. These assumptions draw from the information gathered during the South Oxfordshire Local Plan HRA work.

Physical loss of or damage to habitat

- 4.2 Any development resulting from the NDP will be located within Goring. Loss of habitat from within the boundaries of a European site can only occur where a European site is within the NDP Area, therefore this is only possible at Hartslock Wood SAC. Such physical loss or damage could only occur if NDP proposals could result in development coming forward in those areas. However, in reality the legal protection afforded to European sites means that this is highly unlikely.
- 4.3 Loss of habitat from outside of the boundaries of a European site could still affect the integrity of that site if it occurs in an area used by the qualifying species of the site (e.g. for off-site breeding, foraging or roosting).
- 4.4 Three of the European sites included in the HRA have mobile species amongst their qualifying features that could travel outside of the site to make use of other areas of habitat:
- Little Wittenham SAC: great crested newt.
 - River Lambourn SAC: brook lamprey and bullhead.
 - Kennet and Lambourn Floodplain SAC: Desmoulins's whorl snail.
- 4.5 Great crested newts will travel away from their breeding ponds, during the terrestrial phase of their lifecycle, but not large distances. Some 500 metres¹¹ from their breeding location is considered an appropriate buffer distance inside which great crested newts might be found. The site listing for Little Wittenham SAC¹² states that great crested newts have been found to range several hundred metres into the site's woodland blocks. Research has found that great crested newts at Little Wittenham SAC migrate within woodland and do not over-winter in the arable farmland¹³. All of the woodland within 500 metres of the ponds at Little Wittenham SAC is within the SAC boundary, and the SAC is some 10km distance from Goring NDP area. Therefore potential loss of or damage to off-site habitats associated with Little Wittenham SAC can be screened out of further assessment.
- 4.6 The HRA for the South Oxfordshire Local Plan (January 2018) notes that the River Lambourn SAC (15km outside the District) and Kennet and Lambourn Floodplain SAC (15km outside the District), have mobile qualifying features that are limited in range and are sufficient distance from potential development in South Oxfordshire that potential impacts on off-site habitats can be ruled out. Therefore, potential loss of or damage to off-site habitats associated with the River Lambourn SAC and Kennet and Lambourn Floodplain SAC can be screened out of further assessment.

¹¹ <https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

¹² <http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030184>

¹³ http://etheses.dur.ac.uk/6683/1/6683_3987.PDF

- 4.7 **The physical loss of or damage to European site habitats (on-site or off-site) can therefore be screened out of further assessment, for all sites.**

Non-physical disturbance: noise, vibration and light pollution

- 4.8 Noise and vibration effects, e.g. during the construction of new housing 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.
- 4.9 Using a precautionary approach, we have assumed that the effects of noise, vibration and light are most likely to be significant if development takes place within 500 metres of a European site with qualifying features sensitive to these disturbances, or known off-site breeding, foraging or roosting areas. Only Hartslock Wood SAC is within the plan area and no other European sites are present within 500m of the plan area. However, Hartslock Wood SAC is designated for its habitats only and is therefore not considered to be sensitive to noise and vibration.
- 4.10 **Therefore, the potential for likely significant effects in relation to noise, vibration and light pollution can be screened out of further assessment.**

Air pollution

- 4.11 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 any 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 availability that can then affect plant health, productivity and species composition.
- 4.12 In terms of vehicle traffic, nitrogen oxides (NO_x, i.e. NO and NO₂) are considered to be the key pollutants. Deposition of nitrogen compounds may lead to both soil and freshwater acidification, and NO_x can cause eutrophication of soils and water.
- 4.13 Based on the Highways Agency Design 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.
- 4.14 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.
- 4.15 Recent case law, known as the Wealden judgement¹⁵, has revised the method by which Natural England expects to see in-combination air pollution effects assessed. The implication of the judgement is that, where the road traffic effects of other plans or projects are known or can be reasonably estimated (including those of adopted plans or consented projects), then these should be included in road traffic modelling by the local authority whose local plan or project is being assessed. The screening criteria of 1,000 AADT should then be applied to the traffic flows of the plans in combination.

¹⁴ <http://www.standardsforhighways.co.uk/ha/standards/dmr/vol11/section3/ha20707.pdf>

¹⁵ Wealden District Council v. (1) Secretary of State for Communities and Local Government; (2) Lewes District Council; (3) South Downs National Park Authority and Natural England

- 4.16 It has been assumed that only those roads forming part of the primary road network (motorways and 'A' roads) might be 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 site is not within 200m of a motorway or 'A' road, likely significant effects from traffic-related air pollution can be ruled out.
- 4.17 The European sites within 17km of Goring that are within 200m of strategic roads are Aston Rowant SAC (M40), Kennet and Lambourn Floodplain SAC (A4, A34) and River Lambourn SAC (M4, A4, A339, A34, A338).
- 4.18 However, the Site Improvement Plans for Kennet and Lambourn Floodplain SAC¹⁶ and River Lambourn SAC²⁴ do not identify air pollution as a threat or pressure. While Site Improvement Plans provide an indication of the current threats and pressures at a site, and do not predict future changes, they do provide information on the aspects of the sites' ecology that are likely to be the most sensitive to development. The Kennet and Lambourn Floodplain SAC and River Lambourn SAC are all sites at which physical changes to the aquatic environment, invasive aquatic species or changes to land management are the main threats or pressures, despite the sites being situated close to a major settlement (Newbury) and the roads that serve them. These sites are therefore not considered to be particularly sensitive to air pollution.
- 4.19 SODC commissioned Atkins to model the effects of the South Oxfordshire Local Plan (which included 140 new homes at Goring) on traffic flows within the District. Data from this work has enabled air pollution impacts relating to the Local Plan alone to be screened out for all sites.
- 4.20 The traffic model produced data for the following scenarios, as shown in Error! Reference source not found.:
- 2016 baseline, from traffic count data;
 - 2031 future baseline, from traffic model; and
 - 2031 baseline plus the Local Plan.
- 4.21 Any transport schemes that will come forward as part of the South Oxfordshire Local Plan¹⁷ were included in the traffic model with other Local Plan development. Transport schemes that are identified in the Local Plan but may not come forward were either assessed separately in a 'with mitigation'¹⁸ scenario, or excluded¹⁹. As this additional 'mitigation' may not occur, it has not been taken into account here. The traffic data below therefore represent a worse case than may be achieved if all transport proposals are implemented.

Table 4.1: Estimated traffic flows (total AADT) for modelled scenarios

Scenario	M40 near Aston Rowant SAC
2016 baseline	98,571
2031 future baseline	107,360
2031 with South Oxfordshire Local Plan	107,857
Change without South Oxfordshire Local Plan	8,789
Change due to South Oxfordshire Local Plan	497

- 4.22 Even when the data shown in Error! Reference source not found. are taken with a degree of caution, they show that the change in traffic flows due to the South Oxfordshire Local Plan alone (including development of 140 homes at Goring) is likely to be significantly below the 1,000 AADT screening criteria, for the M40 adjacent to Aston Rowant SAC.

¹⁶ <http://publications.naturalengland.org.uk/publication/4738329056641024>

¹⁷ Clifton Hampden Bypass, Culham to Didcot Thames River Crossing, Didcot Northern Perimeter Road, and Science Bridge.

¹⁸ Benson Bypass, Stadhampton Bypass, Watlington Bypass, and Golden Balls Roundabout.

¹⁹ A4130 Didcot to Wallingford Road Safety Improvements, Abingdon Southern Bypass, Didcot Central Corridor Improvements, Sandford Park and Ride, and Didcot Southern Spine Road.

- 4.23 **Air pollution impacts relating to the NDP alone can therefore be screened out of further assessments. Potential for in-combination effects are considered further below.**

Recreation

- 4.24 Recreation activities and human presence more generally can have an adverse effect on the integrity of a European site, for example as a result of disturbance of sensitive animal species, trampling of plant species or habitat erosion. Where development is likely to result in an increase in the local population, the potential for an increase in visitor numbers and the associated impacts at sensitive European sites has been considered.
- 4.25 We have assumed that all of the sites within the scope of the HRA have the potential to be vulnerable to recreation impacts such as erosion, trampling or species disturbance to some degree. Those European sites that are closest to, most accessible to, or most attractive to use by the residents of Goring, are most likely to be affected by the NDP.
- 4.26 To identify the distance at which the NDP could have an impact on recreational pressure, we have used the same distance criteria as the new South Oxfordshire Local Plan HRA, as follows. The South Oxfordshire Open Space User Survey (2005) reported that 35% of people are prepared to travel for 15 minutes and 45% of people are prepared to travel by car to access natural and semi-natural greenspace²⁰. Visitor surveys²¹ at Little Wittenham SAC also identified that the majority of the visitors to the site live within 20 minutes driving time.
- 4.27 It is difficult to convert these statistics into an average travel distance by all travel modes to access natural and semi-natural greenspace. As a benchmark, therefore, we have made reference to the 'Zone of Influence' identified by the Thames Basin Heaths SPA Delivery Framework²². Whilst it is recognised that the other European sites scoped into this HRA have different designated features to Thames Basin Heaths SPA, the SPA Delivery Framework is primarily concerned with avoiding adverse recreational or urbanising effects from residential development and the buffer distances it defines are judged to provide a reasonable proxy for the distance from housing development within which likely significant recreational effects cannot be ruled out.
- 4.28 The Thames Basin Heaths SPA Delivery Framework advises that there is a presumption against development within 400m of the European site (assumed adverse effect on integrity unless site-specific Appropriate Assessment demonstrates otherwise), that avoidance measures are necessary in relation to all residential development within a Zone of Influence from 400 metres to 5km from the perimeter of the European site and that applications for large scale development (over 50 houses) between 5km and 7km from the edge of the European site should be assessed on a case by case basis. The potential for effects will depend upon the scale of development proposed and the features for which the site is designated; however, as a conservative estimate, it has been assumed that any development within 7km of a sensitive site could have impacts due to recreation.
- 4.29 Hartslock Wood SAC is within the NDP area and lies between 400m and 5km of the existing urban area of Goring. However, Natural England's Site Improvement Plan for Hartslock Wood SAC does not identify public access or disturbance as a current threat or pressure at the site, despite it lying close to Goring. The HRA of the South Oxfordshire Local Plan concluded that there would be no likely significant effects from recreation on Hartslock Wood SAC. The number of new homes allocated to development sites in the Goring NDP (94 homes) is lower than the number homes proposed for Goring in the Submission version of the South Oxfordshire Local Plan (140 homes). Therefore, the NDP will not result in any additional recreation pressure to that identified in the HRA of the South Oxfordshire Local Plan. No other European sites are within the 7km zone of influence.
- 4.30 **Therefore, potential likely significant effects of recreation have been screened out in relation to all European sites.**

²⁰ <http://www.southoxon.gov.uk/sites/default/files/Standards%20summary%20with%20justification.pdf>

²¹ Earth Trust (2016) *Statement of Need for Improvements to the Earth Trust Centre*

²² http://www.waverley.gov.uk/downloads/file/3503/thames_basin_heaths_spa_delivery_framework_2009_-_thames_basin_heaths_joint_strategic_partnership_board

Water quantity and quality

- 4.31 European sites at which aquatic or wetland environments support qualifying features have the potential to be affected by changes in water quantity or quality. The following sites within the 17km buffer of Goring have aquatic or wetland habitats:
- River Lambourn SAC and Kennet & Lambourn Floodplain SAC: river habitats that support qualifying invertebrate and fish species; identified as sensitive to water pollution and hydrological changes (including water levels, siltation and flood defences)²³.
 - Little Wittenham SAC: its ponds support great crested newts, but changes to water quality or quantity have not been identified as an issue at this site²⁴; this site has therefore been screened out.
- 4.32 Sensitive European sites could be affected by changes in demand for water supply and disposal as a result of the NDP e.g. additional housing. In addition, hydrological connectivity can occur in proximity to a river, where development would be upstream of a European site on the same river, or via groundwater where development has the potential to affect an aquifer that the European site lies over.
- 4.33 The potential for effects relating to water supply and disposal has been considered with reference to SODC's Water Cycle Study²⁵, which is based on the Local Plan Preferred Options document. The housing numbers in the NDP are lower than those proposed in the Local Plan Preferred Options document, therefore the assessment can be regarded as precautionary.
- 4.34 None of the European sites that are sensitive to changes in water quality or quantity are downstream of those treatment works where water quality has been identified as a significant issue.
- 4.35 With regards to flow capacity, infrastructure improvements are required at all waste water works to accommodate the proposed growth, however major constraints have been identified at Chalgrove, Didcot, Thame and Wheatley.
- 4.36 In addition, the European sites fed by groundwater are not at risk from abstraction, as confirmed by the Environment Agency in response to previous HRA work for the South Oxfordshire Local Plan:
- "Water supply for Kennet and Lambourn Floodplain and River Lambourn is from the chalk of the Kennet catchment. Under CAMS this aquifer has no available resource - so no new source of water will come from this catchment."*
- 4.37 **Potential water quality and hydrological likely significant effects have therefore been screened out of further assessment for all sites.**

Identification of other plans and projects which may have 'in-combination' effects

- 4.38 Regulation 105 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 or a European offshore marine 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"*.
- 4.39 The first stage in identifying 'in-combination' effects involves identifying which other plans and projects in addition to the NDP may affect the European sites that were the focus of this assessment. Plans that are relevant to this assessment are those that increase the number of homes locally or significantly alter the flow of traffic through other means (for example major transport schemes).

²³ Site Improvement Plan for River Lambourn SAC and Kennet & Lambourn Floodplain SAC <http://publications.naturalengland.org.uk/publication/4738329056641024>

²⁴ Site Improvement Plan for Little Wittenham SAC <http://publications.naturalengland.org.uk/publication/6567758347108352>

²⁵ JBA Consulting (2017) South Oxfordshire District Council – Water Cycle Study, Phase 1 & 2 Final Report

- 4.40 Seven parishes in South Oxfordshire have made (adopted) neighbourhood plans. It is considered that these do not need to be taken into consideration in relation to in-combination effects because:
- Woodcote Neighbourhood Plan allocates a total number of homes that is below that allocated in the Core Strategy.
 - Thame Neighbourhood Plan, Sonning Common Neighbourhood Plan, and the Joint Henley and Harpsden Neighbourhood Development Plan all aim to meet the requirements for housing set by the Core Strategy.
 - Long Wittenham and Chinnor Neighbourhood Plans do not allocate a specific number of homes although the Long Wittenham Neighbourhood Plan considers that it could grow by c.5% (c.15 homes) over the plan period, through minor development and the Chinnor Neighbourhood Plan supports small-scale infill development.
 - The Brightwell-cum-Sotwell Neighbourhood Plan provides land that could accommodate c.60 homes a c.13% increase.
- 4.41 The South Oxfordshire Core Strategy does not require small villages to allocate housing but suggests they should allow for infill development on sites of up to 0.2ha (c.5-6 homes). The Submission version of the Local Plan provides for a minimum of 500 new homes across all of the smaller villages, based on 5-10% growth. The Brightwell-cum-Sotwell plan allows for 13% growth, while Long Wittenham allows for 5%.
- 4.42 The Dorchester on Thames neighbourhood plan is due to proceed to referendum on 15th March 2018. This plan does not allocate sites as it is classified as a 'smaller village' in the Green Belt, but it supports limited infilling and small scale affordable housing sites. As such, these plans are not expected to have potential for in-combination effects with the Goring NDP.
- 4.43 Additionally, the Benson Parish Neighbourhood Plan and the Watlington Neighbourhood Plan are currently at the independent Examination stage. The Watlington Neighbourhood Plan allocates slightly fewer homes than set out in the Submission version of the South Oxfordshire Local Plan.
- 4.44 The Benson Parish Neighbourhood Plan allocates more homes for the village than are set out in the Submission version of the South Oxfordshire Local Plan, as well as the Local Plan 2011 and Core Strategy 2012 and therefore has potential for in-combination effects on air pollution at Aston Rowant.
- 4.45 High Wycombe and Princes Risborough, both in Wycombe District, lie <10km from Aston Rowant SAC, therefore new homes allocated in the Wycombe Local Plan could have in-combination air pollution effects. The HRA of the emerging Wycombe District Local Plan concluded that it was not possible to assess likely significant effects at Aston Rowant SAC in terms of air pollution due to the plan alone, but that measures are in place to address these issues.
- 4.46 The HRA of the Submission version of the South Oxfordshire Local Plan considered in-combination impacts of air pollution arising from traffic on the M40, passing through Aston Rowant SAC. This included modelling concentrations of NO_x (nitrous oxides) for various scenarios along the M40. The predicted contributions of growth (both alone and in-combination) on N deposition were so small at all transect receptors that they are not measurable i.e. <0.01kg/ha/yr, and are therefore well below the screening criteria for both nutrient and acid N deposition. The HRA for the South Oxfordshire Local Plan concluded that the ecological effects of the predicted NO_x concentrations would either be negligible, or that any small effects would be highly unlikely to result in a deterioration in the condition of the qualifying features, and as such it is concluded that the in-combination effects of planned growth would not result in an adverse effect on the integrity of the Aston Rowant SAC.
- 4.47 The HRA of the Submission version of the South Oxfordshire Local Plan concluded that the Local Plan will not have adverse effects on the integrity of European sites, either alone or in-combination with other plans or projects.
- 4.48 **For the reasons set out above, and as the NDP does not propose any growth over and above that set out in the Submission version of the South Oxfordshire Local Plan, in-combination effects have been screened out of further assessment.**

Results of Screening Assessment

- 4.49 The text above presents an initial screening assessment based on a set of screening assumptions has been carried out in order to identify the potential for likely significant effects of the NDP on nearby European sites. Based on those assumptions, no pathways for potential likely significant effects were identified, over and above those already considered through the HRA of the Submission version of the South Oxfordshire Local Plan, either as a result of the NDP alone or in combination with other plans. As such, screening of each individual policy and site allocation is considered unnecessary.
- 4.50 It is also noted that all four allocated sites are within or adjacent to the existing built-up area of Goring. The only other development permitted in the NDP is for infill sites within the built-up areas of Goring (Policy.02). As such, the assumption that development would not take place within Hartlock Woods SAC (see **paragraph 4.2**) can be confirmed.

5 Conclusions

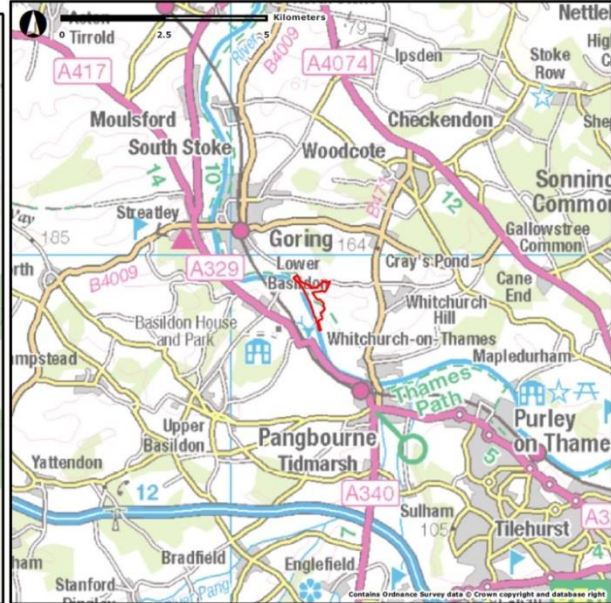
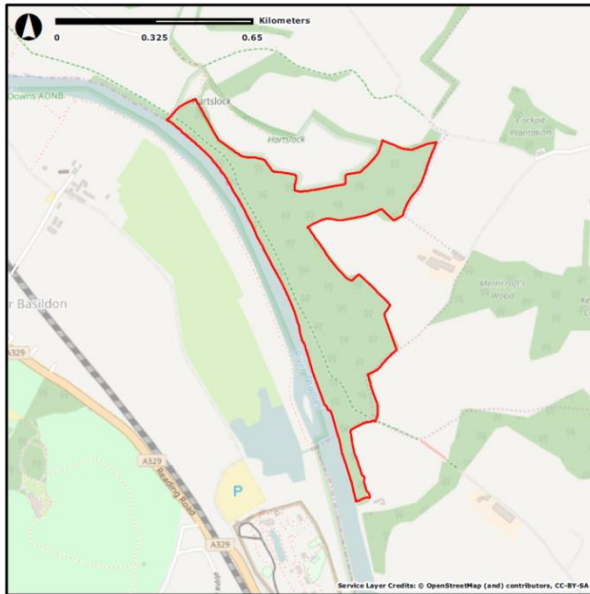
- 5.1 The HRA screening of the Goring Neighbourhood Plan 2018 to 2033 has been undertaken in accordance with currently available guidance and based on a precautionary approach as required under the Habitats Regulations.
- 5.2 The HRA screening has concluded that likely significant effects on the integrity of European sites in and around Goring from policies and site allocations in the NDP will not occur in relation to:
- Physical loss of/damage to habitat.
 - Non-physical disturbance e.g. noise/vibration or light pollution.
 - Air pollution.
 - Increased recreation pressure.
 - Changes to hydrological regimes.
- 5.3 There are no pathways for potential likely significant effects identified, over and above those already considered through the HRA of the Submission version of the South Oxfordshire Local Plan, either as a result of the NDP alone or in-combination with other plans. In particular, the NDP allocates fewer dwellings than set out in the Submission version of the South Oxfordshire Local Plan. The policies and site allocations within the Goring NDP are all considered to be *unlikely* to result in significant effects on European sites, either alone or in combination with other plans or policies. Appropriate Assessment is therefore not required.

LUC
April 2018

Appendix 1

European sites within 17km of Goring

1. Hartslock Wood Special Area of Conservation



Site description

This site hosts the priority habitat type "orchid rich sites". The steep slopes of this site on the chalk of the Chilterns comprise a mosaic of chalk grassland, chalk scrub and broadleaved woodland. The chalk grassland mostly consists of a mosaic of shorter-turf NVC type CG2 *Festuca ovina*-*Avenula pratensis* grassland and taller CG3 *Bromus erectus* grassland. The site supports one of only three UK populations of monkey orchid *Orchis simia*, a nationally rare Red Data Book species. The bulk of this site lies on a steep slope above the River Thames. Recent storms and landslips have resulted in a diverse age-structure for the yew population. Open patches show a rich flora including local species such as southern wood-rush *Luzula forsteri*, wood barley *Hordelymus europaeus* and narrow-lipped helleborine *Epipactis leptochila*.

Qualifying features

H6210	Dry grasslands and scrublands on chalk or limestone
H91J0	Yew dominated woodland
Site status	100% in favourable condition

Special Area of Conservation objectives

1	Avoid the deterioration of the qualifying natural habitats and significant disturbance to them, ensuring the integrity of the site is maintained and makes a full contribution to achieving Favourable Conservation Status for the qualifying features on this site.
2	Subject to natural change, maintain or restore: <ul style="list-style-type: none"> the extent and distribution of natural habitats, and habitats of protected species; the structure and function of habitats, and habitats of protected species the supporting processes on which protected species and their habits rely; the population of protected species; and the distribution of protected species within the site.

Site Improvement Plan²⁶: pressures, threats and related development

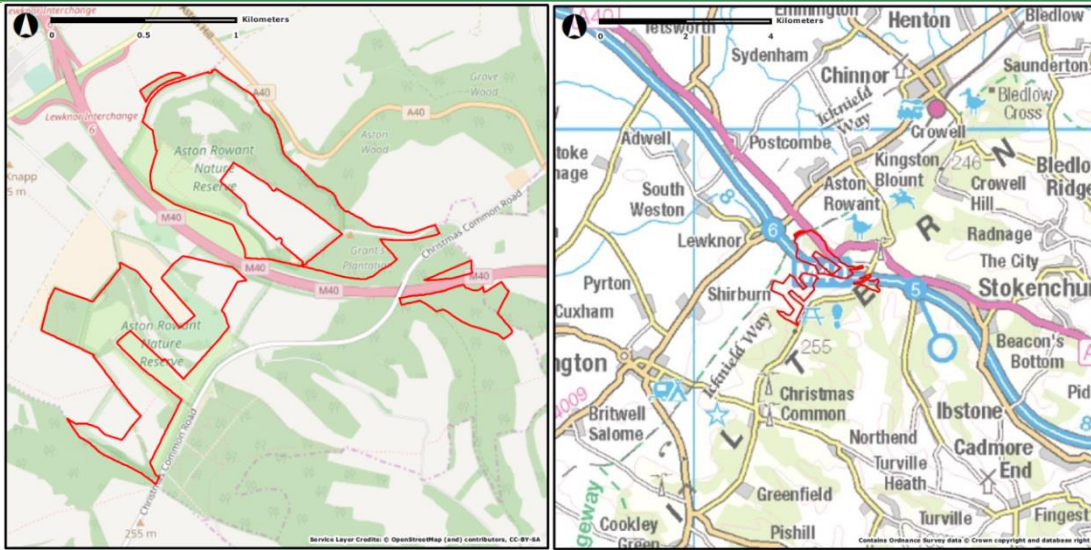
The main threat to this site is air pollution and the risk of atmospheric nitrogen deposition upon the dry grasslands and yew-dominated woodland. With regard to the types of development that may be brought forward in the Local Plan, air pollution could impact the site.

Key environmental conditions supporting the site

1. Appropriate management of grazing
2. Minimal air pollution
3. Absence of direct fertilisation

²⁶ Natural England - Site Improvement Plan: Hartslock Wood (SIP100)
<http://publications.naturalengland.org.uk/publication/4874314121740288?category=6149691318206464>

2. Aston Rowant Special Area of Conservation



Site description

Aston Rowant is classified as SAC because it supports one of the largest remaining populations of juniper in lowland Britain. It is selected as an example of juniper formations on the chalk in the south east of England. At this site juniper is present as part of a mixed scrub community but also occurs as isolated bushes in chalk grassland. In common with most lowland populations of juniper, successful reproduction and survival of new generations of bushes is extremely rare and conservation is currently dependent upon significant levels of management intervention. The low level of reproductive success is the main threat to the feature at this site. Aston Rowant also supports *Asperulo-Fagetum* beech forests although this is not a primary reason for classification as SAC.

Qualifying features

H5130	Juniper on heaths or calcareous grassland
H9130	Beech forests on neutral to rich soils
Site status* ²⁷	100% in favourable condition

Special Area of Conservation objectives

1	Avoid the deterioration of the qualifying natural habitats and significant disturbance to them, ensuring the integrity of the site is maintained and makes a full contribution to achieving Favourable Conservation Status for the qualifying features on this site.
2	Subject to natural change, maintain or restore: <ul style="list-style-type: none"> • the extent and distribution of natural habitats, and habitats of protected species; • the structure and function of habitats, and habitats of protected species • the supporting processes on which protected species and their habits rely; • the population of protected species; and • the distribution of protected species within the site.

Site Improvement Plan²⁸: pressures, threats and related development

The main pressures and threats to this site include an unsustainable on-site population, changes in species distribution, disease of juniper as well as the impacts of air pollution and the risks of atmospheric nitrogen deposition upon juniper. Additionally, conflicting conservation objectives threaten juniper and deer threaten beech. With regard to the types of development that may be brought forward in the Local Plan, air pollution could impact the site.

²⁷ Site status is an assessment by Natural England of the status of the SSSIs within the SAC

²⁸ Natural England - Site Improvement Plan: Aston Rowant (SIP007)

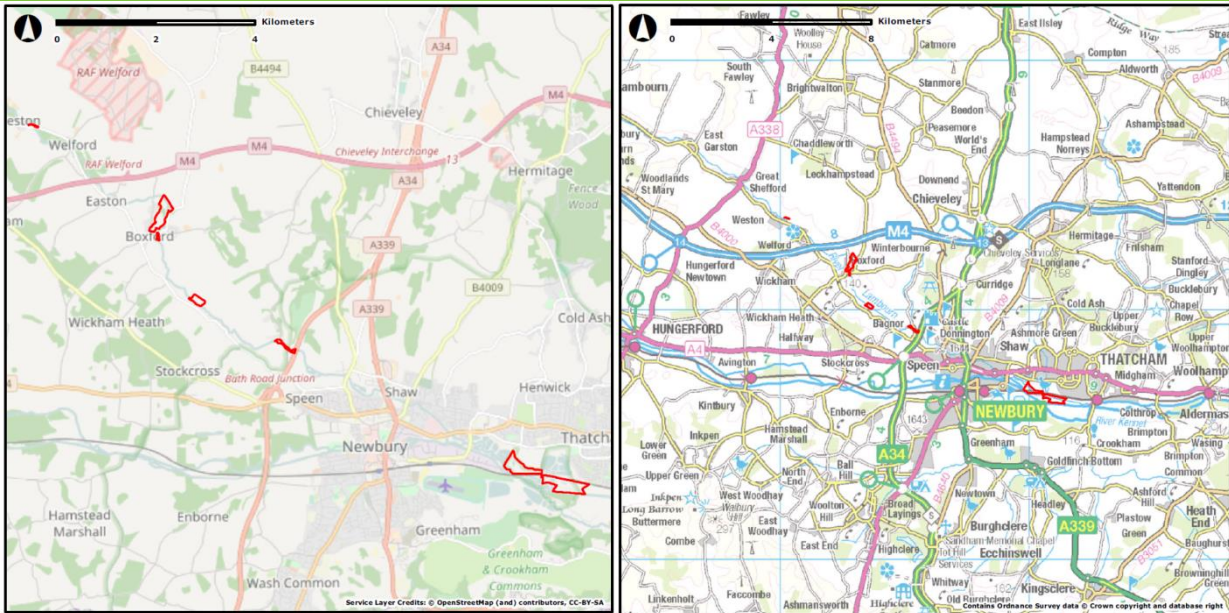
<http://publications.naturalengland.org.uk/publication/4960794580090880?category=6149691318206464>

2. Aston Rowant Special Area of Conservation

Key environmental conditions supporting the site

1. Regular management to keep vegetation open and allow seedlings to establish
2. Prevention of rabbit grazing on seedlings
3. Minimal air pollution

3. Kennet and Lambourn Floodplain Special Area of Conservation



Site description

The Kennet and Lambourn Floodplain SAC consists of a cluster of sites in the Kennet and Lambourn river valleys. These areas represent locations where the terrestrial snail *Vertigo moulinsiana* is particularly abundant.

Qualifying features

S1016	Desmoulin's whorl snail
Site status*	69% in favourable condition; 15% in unfavourable condition, recovering; 1% in unfavourable condition, no change; 16% in unfavourable condition, declining

Special Area of Conservation objectives

1	Avoid the deterioration of the qualifying natural habitats and significant disturbance to them, ensuring the integrity of the site is maintained and makes a full contribution to achieving Favourable Conservation Status for the qualifying features on this site.
2	Subject to natural change, maintain or restore: <ul style="list-style-type: none"> the extent and distribution of natural habitats, and habitats of protected species; the structure and function of habitats, and habitats of protected species the supporting processes on which protected species and their habits rely; the population of protected species; and the distribution of protected species within the site.

Site Improvement Plan²⁹: pressures, threats and related development

The main pressures and threats to this site include the impacts hydrological changes caused by the decline of *Vertigo moulinsiana*, water pollution caused by molluscicides, changing land management and inappropriate water levels, upon Desmoulin's whorl snail. Also, the impacts of water pollution and hydrological changes upon these features as well as Desmoulin's whorl snail.

With regard to the types of development that may be brought forward in the Local Plan, water quality and quantity could impact the site.

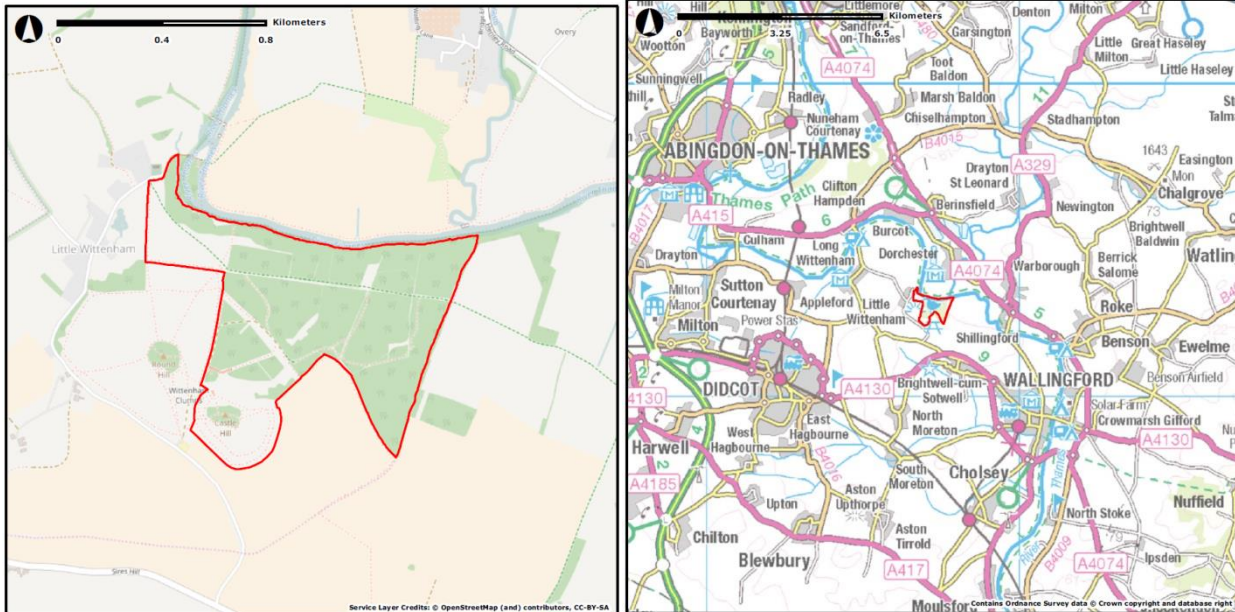
Key environmental conditions supporting the site

- Open, unshaded areas
- Adequate supply of high quality water

*Site status is an assessment by Natural England of the status of the SSSIs within the SAC

²⁹ Natural England - Site Improvement Plan: River Lambourn and Kennet-Lambourn Floodplain (SIP112) <http://publications.naturalengland.org.uk/publication/4738329056641024?category=6149691318206464>

4. Little Wittenham Special Area of Conservation



Site description

One of the best-studied great crested newt sites in the UK, Little Wittenham comprises two main ponds set in a predominantly woodland context (broadleaved and conifer woodland is present). There are also areas of grassland, with sheep grazing and arable bordering the woodland to the south and west. The River Thames is just to the north of the site, and a hill fort to the south. Large numbers of great crested newts *Triturus cristatus* have been recorded in the two main ponds, and research has revealed that they range several hundred metres into the woodland blocks.

Qualifying features

S1166	Great crested newt
Site status	100% in favourable condition

Special Area of Conservation objectives

1	Avoid the deterioration of the qualifying natural habitats and significant disturbance to them, ensuring the integrity of the site is maintained and makes a full contribution to achieving Favourable Conservation Status for the qualifying features on this site.
2	Subject to natural change, maintain or restore: <ul style="list-style-type: none"> the extent and distribution of natural habitats, and habitats of protected species; the structure and function of habitats, and habitats of protected species the supporting processes on which protected species and their habits rely; the population of protected species; and the distribution of protected species within the site.

Site Improvement Plan³⁰: pressures, threats and related development

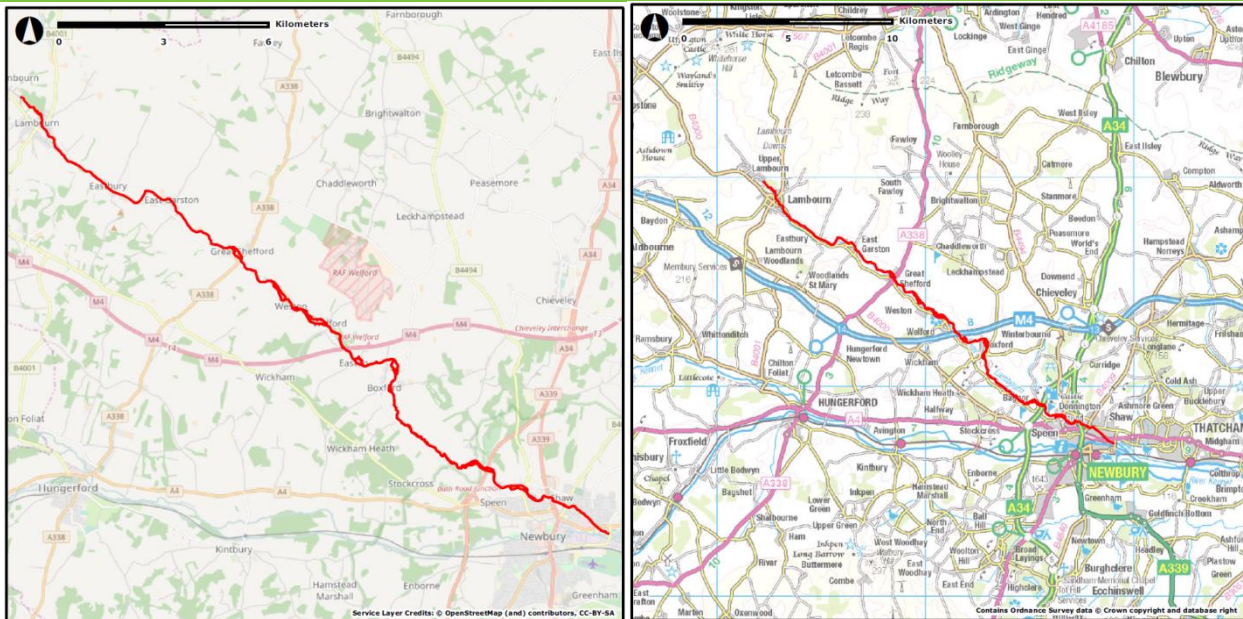
The main pressures and threats to this site include the impacts of public access and disturbance, and invasive fish species upon great crested newt. With regard to the types of development that may be brought forward in the Local Plan, visitor disturbance could impact the site.

Key environmental conditions supporting the site

1. Suitable foraging and refuge habitat within 500 metres of the pond
2. Relatively unpolluted water of neutral pH
3. Some ponds deep enough to retain water throughout February to August at least one year in three

³⁰ Natural England - Site Improvement Plan: Little Wittenham (SIP122)
<http://publications.naturalengland.org.uk/publication/6567758347108352?category=6149691318206464>

5. River Lambourn Special Area of Conservation



Site description

The River Lambourn is an example of a classic chalk stream with a seasonally dry winterbourne section. It is relatively unmodified and has near-natural flow characteristics. The river supports a characteristic range of aquatic plant communities of the *Ranunculion fluitantis* and *Callitricho-Batrachion* types. As well as being classified as SAC for its river type, the Lambourn is also of importance in supporting self-sustaining populations of Bullhead. An additional qualifying feature present is Brook lamprey.

Qualifying features

H3260	Rivers with floating vegetation often dominated by water-crowfoot
S1096	Brook Lamprey
S1163	Bullhead
Site status*	100% unfavourable condition, no change

Special Area of Conservation objectives

1	Avoid the deterioration of the qualifying natural habitats and significant disturbance to them, ensuring the integrity of the site is maintained and makes a full contribution to achieving Favourable Conservation Status for the qualifying features on this site.
2	Subject to natural change, maintain or restore: <ul style="list-style-type: none"> the extent and distribution of natural habitats, and habitats of protected species; the structure and function of habitats, and habitats of protected species the supporting processes on which protected species and their habits rely; the population of protected species; and the distribution of protected species within the site.

Site Improvement Plan³¹: pressures, threats and related development

The main pressures and threats to this site include the impacts of siltation, the invasive species of crayfish, inland flood defence works and inappropriate cutting and mowing upon the following features; rivers with floating vegetation often dominated by water-crowfoot, Brook lamprey, and Bullhead.

With regard to the types of development that may be brought forward in the Local Plan, water quality and quantity could impact the site.

Key environmental conditions supporting the site

1. Water quality
2. Water quantity

³¹ Natural England - Site Improvement Plan: River Lambourn and Kennet-Lambourn Floodplain (SIP112) <http://publications.naturalengland.org.uk/publication/4738329056641024?category=6149691318206464>

5. River Lambourn Special Area of Conservation

3. Habitat quality

*Site status is an assessment by Natural England of the status of the Site of Special Scientific Interest within the SAC